The New England
Journal of Medicine

VOLUME 203 NOVEMBER 27, 1930 NUMBER 22

MISLEADING EVIDENCE BY UROSELECTAN METHOD OF URINARY TRACT EXAMINATION

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THE purpose of this article is to call attention to one mistake that may rather easily be made in the interpretation of the results of Roentgen ray examination following the injection of uroselectan. This relatively new method of making pyelograms and ureterograms is without doubt going to become popular, because of the comparative simplicity of its technic and the fact that complicated and expensive instruments and the special training necessary for their use are not required.

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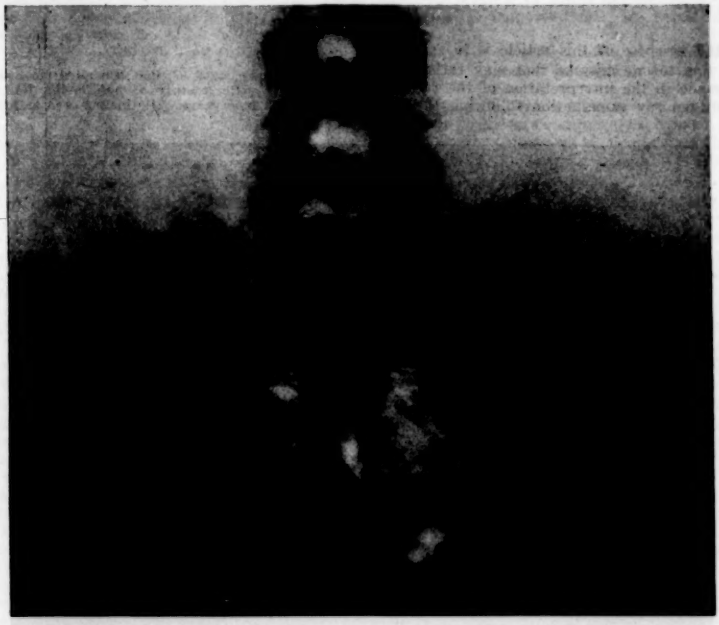
CASE REPORT

A young man, aged 36, first consulted me September 8, 1930, with a story of not having felt well for the past four years. His history was rather indefinite, but the main complaint was that he seemed to lack ambition, and that every few weeks he had attacks of headache associated with dull pain in his lower right quadrant. He thought that at these times he had fever, but he had never taken his temperature. He had no urinary frequency, urgency, nocturia or hematuria. His family history revealed nothing of interest. His habits are good; he smokes very little and uses no liquor. He is married and has one child. Fourteen years ago he had pneumonia; he had had a tonsillectomy two years ago.

1. Plain flat plate showing shadow consistent with a stone in the lower ureter.

Examination: Well developed male, 5 feet, 10½ inches in height, weighing 170 pounds. General appearance is good. Pupils react to light and distance with normal reflexes. Nose, throat and mouth normal. Apex impulse in the 5th interspace in nipple line with no apparent enlargement of the heart. No murmurs were heard. Lungs showed no dullness, no rales and no increased fremitus. There was some tenderness on pressure in the right flank; his kidneys were felt in position and had a smooth border.



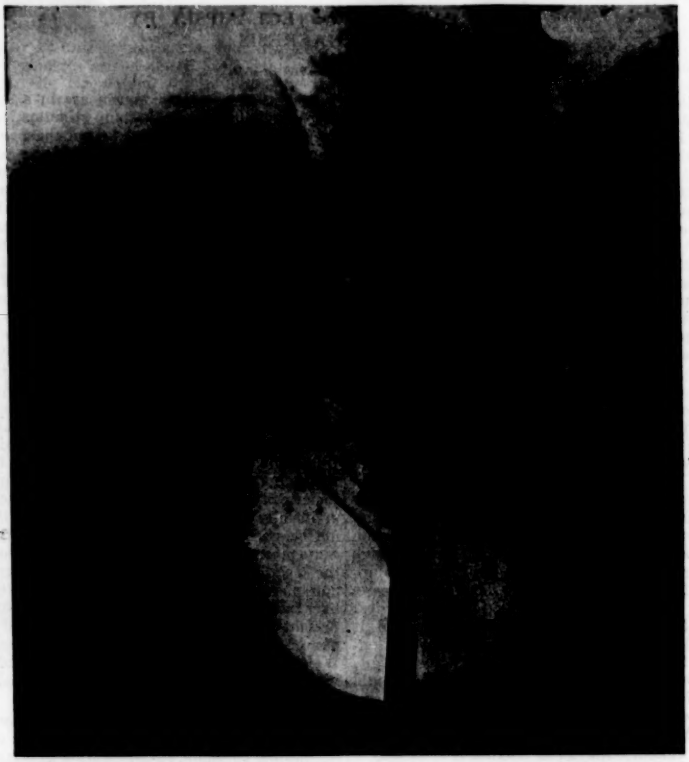
3. Plate taken after the injection of Uroselectan showing shadow in line with a faintly showing shadow of the ureter, and apparently in the line of the ureter.

There was some tenderness on pressure over the whole lower abdomen but it was not localized. The urine was slightly acid in reaction, with a specific gravity of 1020, contained no sugar or albumen, and the urinary sediment showed rare pus cells, a few hyalin casts and no blood. His Wassermann test was negative. Barium series showed an apparently normal oesophagus, stomach and duodenum. Barium enema revealed a rather hypertonic colon with a dilated cecum which was freely movable and not tender. The appearance of the colon was that of a simple colitis. There was no diverticulum of the colon. Graham test revealed a normal gall bladder. Heart and lung shadows were normal. The kidneys were normal in size, shape and position. On the right side, at the level of the top sacral segment there was a small irregular shadow which could be a stone in the ureter. There was no evidence of arthritis shown in the spine.

As a result of the presence of this shadow which simulated a stone in the right ureter, on September 15, I attempted to pass a number six ureteral catheter into the right ureter with the intention of getting a picture with the catheter in position, but after a rather trying siege for the patient, I was forced to give up my attempt as I could not get the catheter to engage in the ureteral orifice. I next decided to try and get some ureterograms following the injection of uroselectan, which was administered on September 20. In these films the shadow of the suspected stone seemed to lie in the axis of the ureter and while the ureter did not completely fill, it could be outlined to some degree. It did not need much stretching of the imagination to make a pretty positive diagnosis of a stone in the ureter, which we did. Nine days later, preparatory to attempting to stretch the ureteral orifice with the hope of dislodging the stone, I managed to pass a number five catheter; the picture with the catheter in the ureter now showed our suspected stone to be at least ¾ inch from the ureter.

COMMENT

Summary: Here was a man who presented a history which could be reasonably interpreted as suggesting ureteral stone. The flat Roentgen plate showed a shadow which was consistent with the shadow of a stone. A ureterogram



3. Plate taken after the introduction of a catheter and showing the ureter at a distance from the shadow suspected of being a stone.

following uroselectan seemed to present more positive evidence of calculus, yet the passing of a ureteral catheter proved without question that the rest of our seemingly positive evidence was at fault.

In conclusion, I wish to state that this mistake is one that I feel will be repeated many times, and possibly considerable unnecessary surgery will be undertaken if the use of uroselectan is generally adopted as a substitute for the older and more reliable method of procuring Roentgen pictures of the kidney pelvis and ureters by means of cystoscopy, catheterization of the ureters and injection of the kidney pelvis.

THE TREATMENT OF ECLAMPSIA BY PLASMAPHAERESIS

BY FREDERICK C. IRVING, M.D.*

IN the past 15 years there has been a considerable change in the treatment of eclampsia. Preceding this period, the fact that the convulsive toxemia occurred only in gravid women led most obstetricians to believe that the first essential for its relief was to end the pregnancy. Accordingly, they emptied the uterus by *accouchement forcé* with the result that the patient, already in a precarious condition, was subjected to trauma that would have taxed the resistance of a well and strong woman. Many continued to die of eclampsia and others succumbed to hemorrhage, shock and infection. By slow degrees the belief spread that less violent measures would produce a lower mortality rate. From time to time a voice had been raised in protest. Stroganoff of St. Petersburg and the Rotunda Hospital group in Dublin had reported good results by treating the disease and disregarding the pregnancy, but in this country, at least, no one paid them any particular attention. American obstetrical thought was then busy with the problem of how to deliver the baby without killing the mother. Those of a more conservative nature had substituted induction of labor for *accouchement forcé*, but although their results were materially improved, eclampsia still remained a distinctly dangerous disease. About this time Caesarean section as a surgical procedure had become reasonably safe and it appealed to the radical element because it enabled them to evacuate the uterus without waiting for the os to dilate. A small and sporadic experience with Caesarean section in the treatment of eclampsia at the Boston Lying-in Hospital has led us to avoid it whenever possible. From January 1, 1916 to August 1, 1930 only 7 such operations were done for eclampsia and 3 of these patients died; a mortality of 42.9%. Aside from our own results, which have been thoroughly bad, we have been guided by opinions from the largest and most intelligently conducted clinics throughout this country and abroad to the effect that Caesarean section for eclampsia has the highest mortality rate of any method of treatment.

For about 40 years the Dublin school of obstetricians has combated eclampsia by thorough evacuation of the gastro-intestinal tract, starvation, morphine and the infusion of sodium bicarbonate solution. Delivery has not been effected until full dilatation of the os. In 204 cases so treated, Solomons[1] has reported a mortality rate of 10.3%. Meanwhile Stroganoff[2, 3] had announced even better results from the systematic use of morphine, chloral and chloroform. Believing that eclamptic women are in a state of hyperexcitability and that any stimulus is likely to precipitate a convulsion, he put them in darkened rooms, disturbed them as little as possible and gave them morphine and chloral, according to a definite routine. He reported a mortality rate of 3.3%. However, after a review of Stroganoff's cases it was Stander's[4] opinion that the type of eclampsia treated by Stroganoff in Russia was milder than that encountered in the United States. About 70% of Stroganoff's patients had no convulsions before entering his clinic and 50% had no more than one convulsion. No group of observers, either here or in Europe, has been able to equal his results and for the present they must be accepted with reservation. For many years morphine in repeated doses and of late the Stroganoff régime have been used at the Boston Lying-in Hospital. In a series of 111 eclamptic women 63 received such treatment and of them 22.2% died, while of the remaining 48 to whom narcotics were not systematically given, 33.3% died. Since some were artificially delivered and some were not, it cannot be said that the difference in mortality percentage resulted entirely from this element in the treatment. Also the factor of operative or non-operative handling of the cases modifies in like fashion the results, which I shall discuss presently, that we obtained with the use of magnesium sulphate intravenously and venesection. We believe, however, that the Stroganoff routine is rational and we apply it to all eclamptic women.

Following the discovery of the antispasmodic effect of the intravenous or intramuscular use of magnesium sulphate, its application in eclampsia was advocated by Lazard[5] of Los Angeles and Dorsett[6] of St. Louis. Our experience with it has led us to discontinue its use. Of the 13 patients who received it, 38.4% died, while of the 98 to whom it was not given, 25.9% died. Our observation has been that the convulsions may be checked but that the toxemia often continues.

Venesection has always been a useful measure against eclampsia. We performed venesection on 38 of 111 eclamptic women with a mortality of 28.9%, while in the 73 cases in which blood was not withdrawn there was a mortality rate of 41.7%. We have hesitated to remove permanently from our patients large quantities of blood on the basis that thereby the oxygen carrying capacity of the circulation might be diminished to a considerable extent. Anemia and susceptibility to infection are to be feared in any patient but especially in an eclamptic woman. The largest amount that we have removed by venesection has been 750 cc. but two removals

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of 500 cc. each have been effected on one or more occasions.

It is reasonable to suppose that eclampsia is caused by an unidentified toxin, and since pathological changes are produced in the liver, the kidneys, the circulation and occasionally the uterus as is the case in toxic separation of the normally implanted placenta, it is equally logical to assume that this toxin is transported in the blood stream. In diseases with demonstrable toxins it has been shown that they are carried by the plasma and not by the corpuscles. With these ideas in mind we have applied plasma removal, or plasmaphaeresis, as performed by Abel, Rowntree and Turner[7] upon experimental dogs, to eclamptic women. The method, which

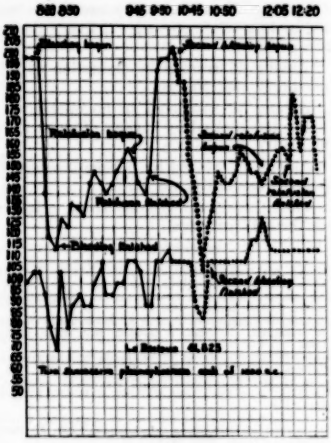

CHART I.

Two successive plasmaphaereses on the same patient. Systolic and diastolic blood pressure curves.

previously has been described in detail[8, 9], will be outlined briefly here. A liter of blood from a vein at the elbow is drawn under sterile precautions into sodium citrate solution. It is distributed among 4 sterile centrifuge bottles and centrifugalized for 20 minutes. There results a clear layer of supernatant plasma, which is siphoned off and discarded. Normal saline solution is added to the corpuscles and they are gently diffused into it by rotating the bottles. After a second centrifugalization the supernatant solution, in its turn, is siphoned off. The corpuscles are finally mixed with enough fresh salt solution to make a liter and reinfused into the patient.

Following the abrupt removal of a liter of blood there is almost always a rapid and marked fall in blood pressure. The systolic reading may drop 100 mm. Hg. or more and the diastolic to a less degree. In some cases the pulse pressure has fallen to 10 mm. Hg. This startling phenomenon should cause no alarm if one reflects that it merely results from the temporary removal of only about 1/5 the total blood volume. Moreover in every case the blood pressure has risen to a comfortable level while the withdrawn blood was being centrifugalized and washed and before the corpuscles were reinfused. After the washed corpuscles are restored in salt solution nothing further is done if the convulsions cease and the blood pressure remains below 150 mm. Hg. Convulsions, twitching, or a marked rise in blood pressure are indications for another plasmaphaeresis. Of our 17 patients 12 required only one plasmaphaeresis, the convulsions ceasing and there ensuing a steady progress toward recovery. In 5 a second plasmaphaeresis was necessary in 4 cases and a third in one to produce the desired effect. Chart I shows the blood pressure curves during two successive plasmaphaereses on the same patient. In no case did we fail to stop the convulsions by this method.

Inside of 8 hours following plasmaphaeresis we have noted a return to rational consciousness, an increase in the secretion and an improvement in the quality of the urine, a disappearance of cyanosis and a relief from the edema of the lungs, which in the past has been so often a precursor of a fatal termination. Included in this series are antepartum, intrapartum and postpartum eclampties of all degrees of severity from the mildest to the most grave. Blood cell examinations before and after plasmaphaeresis have shown that there is no diminution in the number of erythrocytes or destruction of the formed elements.

When a patient with eclampsia enters the hospital, the Stroganoff routine is at once begun. In brief this is:

Hours	Medication
0	Morphine gr. ¼ subcut.
1	Chloral hydrate gr. xxx per rectum.
3	Morphine gr. ¼ subcut.
7	Chloral hydrate gr. xxx per rectum.
13	" " " xx " "
21	" " " " " "

and chloral hydrate gr. xx per rectum every 8 hours thereafter.

The patient's ears are plugged with cotton soaked in oil and a blindfold is applied. A plasmaphaeresis is done at once. Since all equipment is kept ready and sterile there need be no loss of time. If convulsions or restlessness should occur before the blood is withdrawn, they are controlled by small amounts of chloroform. Recently Avertin (tribromethanol) has been given by rectum for the same purpose. After plasmaphaeresis the patient is kept in a quiet darkened room with a special nurse in constant attendance. She is not disturbed except to take her blood pressure or to obtain a catheter speci-

men of urine. If she is in labor, parturition is allowed to progress normally. Operative procedures are not done unless the os has been fully dilated for two hours without progress. Alterations in the fetal heart-rate before full dilatation do not lead us to end labor; the baby has too poor a chance of survival under the best circumstances and it should always be kept in mind that eclamptic women stand operative delivery badly. If the patient is not in labor, nothing is done about it until some time after she has recovered from her eclamptic attack. Forty-eight hours later, if she has not delivered herself or has not started in labor, and provided she has had no more convulsions, is conscious and rational, has a normal blood pressure and the urine is clearing, we initiate uterine contractions by simple rupture of the membranes and the repeated administration of 1 to 2 minims of pituitary extract. Should it be necessary to do so we repeat the Stroganoff routine. Under no circumstances do we empty the uterus by operative means or induce labor during convulsions or coma.

From January 1, 1916 to August 1, 1930 there were 111 eclamptic women at the Boston Lying-in Hospital who were treated by other methods than plasmaphaeresis. Among them the gross maternal mortality was 27% and the gross fetal mortality was 52.7%. The first plasmaphaeresis for eclampsia was done October 26, 1927. Since then 17 patients have been so treated with a gross maternal mortality of 5.9%, one patient having died of pneumonia and empyema on the sixteenth day.

When we compare the results obtained by plasmaphaeresis with those following immediate operative delivery, induction of labor, or even no operative interference but various other measures, we find further reason for continuing our present treatment. With immediate operative delivery our maternal mortality was 38.7%, with induction of labor 20.5%, and with no operative interference 21.9%.

Of the 17 babies who were born to the eclamptic mothers treated by plasmaphaeresis 8 died, a fetal mortality of 41.2%. Three of these were dead in utero on admission and 3 more died in utero during convulsions before treatment was instituted. Another died 24 hours after birth of prematurity. The infants of eclamptic mothers have a considerable likelihood of non-survival under any method of treatment, the fetal mortality rates being for immediate operative delivery 51.6%, for induction of labor 82.6% and for no operative interference 21.9%. Three of the seven babies delivered by Caesarean section died, a mortality of 42.8%.

SUMMARY

1. The development of the treatment of eclampsia during the past 15 years is reviewed.

2. The rationale of plasmaphaeresis, or plasma removal, is explained and its technique is outlined.

3. Among 32 eclamptic women who were treated by immediate operative delivery the mortality was 38.7%.

4. Among 44 treated by induction of labor the mortality was 20.5%.

5. Among 32 subjected to no operative interference but treated by various other measures the mortality was 21.9%.

6. Among 17 treated by plasmaphaeresis the uncorrected mortality was 5.9%.

7. There were no deaths from eclampsia among these 17 patients.

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THE PRACTICE OF MEDICINE IN CHINA AND NEW ENGLAND WITH OBSERVATIONS ON HYPERTENSION*

BY JOHN H. FOSTER, M.D.†

IN comparing the diseases of China with those of America as seen in a large hospital and dispensary practice there, and in a hospital and private practice in New England, I have been impressed by a number of contrasts.

1. The great importance of parasitic disease there and its relative unimportance here. In the Hunan-Yale Hospital[1], during the period 1925-1926, there were 5,789 urine examinations and 3,128 feces examinations out of a total of 14,002 total tests, and between 70 and 80% of the feces showed some type of intestinal parasite, chiefly ascaris, trichuris, amoeba or schistosoma. Examination of the stool was as important as that of the blood or urine. In the Waterbury Hospital[2] for the three years (1926 to 1929) there were reported 12,122 to 13,112 urine examinations per year, and only 131 to 176 feces examinations out of a total of about 25,400 total laboratory tests per year.

2. The extraordinary amount of tuberculosis in China. At least 20% of all medical patients in the dispensary and in the medical in-patients had some form of tuberculosis. Seven per cent. of 1,800 students examined gave a history of hemoptysis. In New England it is becoming comparatively rare. In only 3% of my office cases has tuberculosis been diagnosed or suspected.

3. The great prevalence of intestinal infections in China: typhoid, bacillary, and amebic dysentery and cholera. In this country there are now practically none, unless one includes cases of colitis.

4. Certain deficiency diseases, namely beriberi, osteomalacia, sprue and other tropical diseases such as leprosy, kala-azar, schistosomiasis, malaria, etc., are common in China but are practically unknown in New England.

5. Tumors and malignant disease seemed quite general there because the growths had been allowed to grow unchecked, so that one could seldom go through the city streets without encountering several persons afflicted with visible tumors.

6. Smallpox is a constant menace in China and is excessively rare in this country.

A large number of conditions were seen in China with about the same frequency as in New England. The venereal diseases, gonorrhea and syphilis, appeared in the same form, with the same complications, were contracted in the same manner, and were the cause of as much suffering. Peptic ulcer was common, and presented the typical symptoms. Cholecystitis, cholelithiasis and cholangitis were also common.

Acute rheumatic fever was very rare in my experience, but rheumatic and syphilitic heart disease, generally in the later stages, with hypertrophy, auricular fibrillation and heart failure, was common. Hemoptysis due to mitral stenosis was rather frequent. Acute and chronic nephritis, especially of the glomerular type, were rather usual, but the chronic interstitial type was much less so. Cirrhosis of the liver was frequent; 2% of our hospital medical in-patients had ascites, the most striking examples of which were due to the cirrhosis of schistosomiasis. Neuroses and psychoses were seen with about the same frequency as in this country.

Other conditions now seem conspicuous by their absence or infrequency. True pernicious anemia we did not see, although secondary anemias were frequently encountered. Dental caries was relatively much less frequent. Chronic arthritis was not common, and allergic hay-fever and asthma uncommon. I do not recall a single case of angina pectoris among the Chinese and only one Chinese with essential hypertension.

Hypertension has been the one most impressive feature of my practice in Waterbury. Of office records in 1200 adult patients 200 or 16.6% have had a diagnosis of hypertension (blood pressure of 150 systolic or over), with or without some other conditions such as obesity, hypothyroidism, cardiac disease, chronic nephritis, arteriosclerosis, etc. One hundred and sixty-seven (13.8%) had blood pressure of 160 or over, and 63 with blood pressure 200 or over. Among 4,000 Chinese patients in the Medical service in the Hunan-Yale Hospital, over a period of four years, we found less than 20 with a blood pressure of 160 or over. In two years at the Peter Bent Brigham Hospital[3] in Boston (1918-1919) out of 4,940 medical patients 382 had hypertension. Gager[4] from the Cornell Clinic, in 2000 routine cases of men and women, reported 15% of men and 16.9% of women with systolic blood pressure over 140 in those below 40 years of age and over 150 in those 50 years of age. Donnison[5] has reported a similar striking absence of high blood pressure and cardiorenal disease among the Africans.

Is it not possible that in this striking infrequency of angina and hypertension among the Chinese some clue as to the etiology of these two most important cardiovascular diseases may be found? Hypertension has been studied intensively from all angles and written about pro-

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fusely. The *Quarterly Cumulative Index Medicus* for 1927, 1928 and 1929 lists over 292 published articles on "High Blood Pressure." The more one reads, the more is one confused in the maze of conflicting theories as to the cause of hypertension. Arteriosclerosis is regarded by some as the cause and by others as the result of increased pressure. Nephritis is thought to be a common cause but is also regarded as the result.

Among the causes mentioned are:

(1) *Physical*—diminution of the arterial bed as in arteriosclerosis.

(2) *Chemical*—as in perverted metabolism, salt, or protein retention, chronic lead or arsenical poisoning.

(3) *Mental*—anger, fear, excitement and other emotions, acting perhaps indirectly by hormones, an emotional hypertension. Some state that derangement of the autonomic system is responsible for many cases; others, that the autonomic system is not concerned in the etiology of high blood pressure, but mental stress is accepted as one of the main etiologic factors.

(4) *Endocrine imbalance* of the adrenal, thyroid and pituitary glands and ovaries has been brought forward as responsible for certain types of hypertension.

(5) *Focal infection* and *chronic sepsis* may cause hypertension.

Classification is generally unsatisfactory. Essential hypertension, or hyperpiesis, as opposed to the hypertension of cardiorenal disease, still is not based on etiology.

In 1927, I published the results of a study of blood pressures in a group of Americans in China[6]. In comparing them with records of blood pressure of the local Chinese I found that:

(1) The blood pressure of the Chinese was lower than the accepted averages for Western countries (systolic average 110), and that hypertension was rare.

(2) That the blood pressure of a series of Occidentals living in China was about the same as that of the Chinese, and that the blood pressure of the majority of persons studied was lower in China than in America. A similar report was made by Tung[7] from Peking shortly after.

An attempt was made to analyze some of the theories that had been suggested from time to time to explain the low blood pressure of the Chinese, such as:

(1) The smaller statures and lighter weight of the Chinese.

(2) Diminished capacity for muscular effort; a decrease in muscular tone.

(3) Racial endocrine differences.

(4) Largely vegetable diet, low in protein and salt.

(5) Climate which lowers vasomotor tone.

(6) The simplicity of life and absence of nervous strain in China.

The first five do not seem tenable when checked with actual conditions and with the foreigners studied, although Mills[8] claims that the low blood pressure is due to hypoadrenalism. Tropical climate has been shown to cause a lower basal metabolism[9] and 67 naval officers studied by Roddis and Cooper[10] in temperate and tropic zones showed a lowering of blood pressure when in the latter. The climate of China, and especially in the northern half, is far from tropical.

The question was raised, could there not be some subconscious adjustment to the unhurried life of the East?

The latter point has been elaborated rather fully by Dr. W. H. Houston[11] (my senior colleague in the Medical Service at Changsha). He was impressed, after his return to practice in the United States, by the great frequency of the functional neuroses, particularly of the spasmodic type, cardiac anginas and spasms of the oesophagus, pylorus, colon, bladder, ureters, and blood vessels, as compared with an almost complete absence of these among the Chinese.

He spoke of the "spasmogenic aptitude", a hypersensitiveness to stimuli of the vegetative nervous system, a sort of syndrome, rather than a clinical entity; a constitutional defect in which in individuals, a slight stimulus of neurogenic origin will suffice to excite the spasm with its characteristic pain.

Dr. Houston reviewed the characteristics of the Chinese in the light of the above and could find nothing in the diet, climate or endocrine system to account for any difference. Instead of finding the Chinese the serene, placid, peace-loving, or the cold-blooded, self-contained character of fiction, he discovered them to be the most neurotic persons in the world but with neuroses of the anxiety type, flaccid rather than spasmodic. Instead of finding the Chinese calm (and calm has been claimed as the only remedy for essential hypertension by Mosenthal), he found them highly excitable, noisy, and delighting in din and stir. As he puts it, "A Chinese expressed the fundamental distinction between Chinese and Occidental psychology by saying that the Occidental, when meeting with a difficulty, tries to remove it, making a change in the external environment, an external adjustment. The Chinese finds it easier to make an internal adjustment, to change his soul to an attitude of acceptance. When the axle on the wheelbarrow squeaks and squeals, we grease it. The Chinese wheelbarrows are never greased; they can be heard a mile away. We say the screeching is intolerable; they accept it. If we stay in China long enough, we (most of us) learn to accept things, and our normal systolic pressure becomes, as the Chinese is, about 100. If the Chinese live in America long

enough, they learn our habit of protest and non-acceptance, and their normal blood pressure rises to our level."

In many points this conception of Dr. Houston's is similar to what Jacobsen[12] of Chicago calls neuromuscular hypertension or nervous hypertension, a condition of reflex hyperexcitability, which is often present in so-called neurasthenia, but is present also along with many disease conditions. It may be the result of prolonged pain or distress, emotional disturbances such as fright, loss or bereavement, bacterial infection, trauma of all kinds, chronic nervous strain and possibly congenital defects of the nervous system.

Nervous hypertension is a classification of symptoms similar to arterial hypertension and, in his opinion, deserves the same popularity. "The two diagnostic terms are alike in not denying possible underlying pathology. Arterial hypertension may follow certain heart and kidney disease. Nervous hypertension may follow various pathological conditions mentioned above. Likewise both arterial and nervous hypertension may arise from functional conditions in the absence of a demonstrable organic disease. Both terms represent a systemic condition but not a complete diagnosis and both types of hypertension frequently exist together."

I would say that in China neuromuscular hypertension is rare and that it is present in a fairly large proportion of patients one sees in practice in this country.

In reviewing the situation, comparing the groups of cases seen in China and here, I am still at a loss to account for the high percentage of hypertension here and the infrequency there. There is certainly a tension to everyday life in America, in this mechanical and electrical age, that is absent in China; a tension that can be seen and felt in most patients one examines. But is this nervous factor sufficient to account for the great frequency of high blood pressure?

Can hypertension be similar to deficiency diseases such as edemic goiter, pellagra, beriberi or rickets, due to absence of certain elements in our diet? In this connection I have been interested in the recent reports by Barksdale[13] and others[14, 15] relative to the action of cucurbocitrin upon hypertension. Cucurbocitrin is a glucoside extracted from watermelon seeds, which has been shown experimentally and clinically to have a definite vasodilator action, resulting in lowering of the blood pressure. The results appear, from available reports, to be quite similar to those obtained from potassium sulphocyanate bismuth and with liver extract.

Watermelon seeds, dried or toasted, are eaten in prodigious quantities in China. At every social gathering, along with tea or cakes or confection, watermelon seeds are always present and the floors are generally littered with the shells. Melons of many varieties are grown in great quantities all over China during the summer months. The seeds are dried and saved, and a handful can be bought anywhere for a few coppers. Where we would "reach for a Lucky or a sweet", they take a few watermelon seeds. It can be said to be a nation-wide habit, and one in which most foreigners indulge more or less. Is it not possible that the few milligrams of cucurbocitrin ingested from time to time throughout life may be sufficient to maintain a relative hypotension and to act as a prophylactic agent against hypertension? Improbable as it may sound, when compared to the facts of iodine or vitamin deficiency, is it not possible that there be some such specific hypotensive element in their nation's dietary that is lacking in ours? To prove such a theory would be difficult, but should not be impossible.

SUMMARY

The most conspicuous difference noted between practice in China and in the United States is the rarity of hypertension in China and its frequency in this country. Sixteen per cent. of office patients in Waterbury, over a period of three years, have had systolic blood pressures of 150 and over.

The blood pressure of the Chinese is lower than the general average for western countries, and foreigners living in China tend to develop lower blood pressures.

In this great difference between the Chinese and Occidentals some factors in the etiology of hypertension should be demonstrable.

The factors generally mentioned,—stature, muscular development, endocrine gland influences, diet and climate—do not seem sufficient to explain the difference. A nervous element may be responsible.

The prevalence of the "spasmogenic aptitude" and of a "neuromuscular hypertension" in the United States and its absence in China may partially explain the infrequency of hypertension there and its frequency here.

The widespread use of watermelon seeds, which apparently contain a substance that lowers blood pressure, may be another factor in the lower tension of the Chinese.

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CLINICAL FEATURES OF AN EPIDEMIC OF RUBELLA

BY MAURICE O. BELSON, M.D.*

RUBELLA, or German measles, is a disease which may be easily overlooked because of the mildness of its symptoms and the evanescent character of its lesions.

In the five month period from January to June 1930, 118 cases of rubella were reported from Charlestown[1], a section of the city of Boston. During the same period in 1929, only one case was reported, this being the only case in Charlestown for the whole year of 1929. Of these 118 cases, I, as District Physician for the Boston Dispensary, saw 36, approximately 30%.

German measles has been a reportable disease in Massachusetts since 1914[2]. Chart No. 1 shows that the number of cases reported yearly has been about 500 to 1000, with a few exceptions, i.e., in 1914, only 21 cases were reported; in 1917, approximately 6000; in 1918 approximately 9500, the greatest number ever reported in Massachusetts for a one-year period; in 1925 and 1926 approximately 6500 cases were reported each year. The first case to be reported in Boston was in 1916.

A striking feature throughout the 1930 epidemic was the fact that the children did not appear to be sick and in many instances were fully dressed and were playing in the house when our first visit was made. Some mothers would volunteer the information that the child was "not sick", but only had a rash; others would state that the child had been well in the morning and had gone to school, where the teacher had noticed a rash on its face and had sent the child home. The rash was usually the first sign which attracted the mother's attention. In this series the eruption was the first symptom noticed in 35 of the 36 cases.

The eruption consisted of the characteristic dull red to pink maculopapular lesions, varying in size from 1 mm. to 4 mm. in diameter, and usually discrete. Sometimes the eruption was very fine and confluent in certain areas and gave the appearance of a uniform blush or patch of erythema, but in these cases, in addition, the typical maculopapular discrete lesions were usually found on the extremities. The lesions sometimes resembled insect bites. Generally the eruption appeared first upon the face and spread rapidly from above downward over the entire body, the extremities being the last parts involved. Fading took place in the same order, in from 24 to 72 hours. The rapid disappearance of the exanthem probably accounts for the fact that when first seen the rash was very frequently most prominent on the extremities and was fading on the face, chest, abdomen and back. In some instances, the eruption, when first seen, was very faint and only present on the extremities, the remainder of the body being clear. The latter were the cases seen approximately 36 to 60 hours after the first appearance of the exanthem. A few mothers stated that there had been no rash on the face, but we must consider the possibility of its having been on the face also, perhaps while the child was playing in the yard, and by the time he entered the house, was undressed and maybe bathed, the rash was over the entire body and had already faded from the face. Some writers report pigmentation and desquamation of the skin after the rash. This was not seen in our cases. Another point of importance is that there was no itching in any case. A rash on the palate was present in four of our cases. Koplik's spots were never found.

Flöystrup[3] reported one case of rubella without a rash. His son, aged 9, who previously had had measles, was exposed to rubella in school; he had mild catarrhal symptoms and enlarged posterior cervical lymph nodes. He was watched daily and seen frequently each day; therefore if an exanthem had appeared it would have been noticed, but no rash was seen. Eight days later his three-year-old son had adenitis and was examined daily for a rash. A fortnight after the onset of his elder brother's illness, the younger son had a typical rubella rash, together with other symptoms of this infection. The younger son had suffered from measles, two years previously, and there was no other cause of contagion, as he had not been exposed elsewhere. In this epidemic I did not see any case without a rash that could be called rubella.

Catarrhal symptoms preceding the rash are rare. In our series only one case had lacrimation and coryza before the presence of the exanthem. Catarrhal symptoms may be present during the course of the disease, but are usually very mild, and occurred in only nine of our patients.

Enlargement of the posterior cervical lymph nodes was one of the most constant findings, be-

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ing present in every case. Some authors[3, 4] regard this as diagnostic. The writer does not subscribe to this view because it is not uncommon to find enlarged nodes in scarlet fever and measles; therefore while this finding is not of great importance in differential diagnosis, its presence is another point in favor of the diagnosis. In seven of our cases enlargement of the inguinal nodes was also present. The enlarged nodes were not tender, they did not suppurate and subsided slowly.

Another finding that stands out prominently is the range of temperature, which was usually normal or only slightly elevated; 60% of our cases had an afternoon temperature of 98.6° F., or under, when first seen. In the remaining 40% the rise of temperature was from 0.2° F. to 1.0° F., with the exception of the one adult, whose temperature was 100° F.

The patients' ages ranged from 1 to 10 years, except one, an adult of 28. The average age was 4.5 years, the adult having been excluded.

The patients usually have no complications, although Geiger[4] reported an epidemic in which the following were observed: "In 36 cases acute arthritis occurred, recovery being most difficult. In 4 cases hemolytic streptococci in pure culture were isolated from the enlarged knee joints,

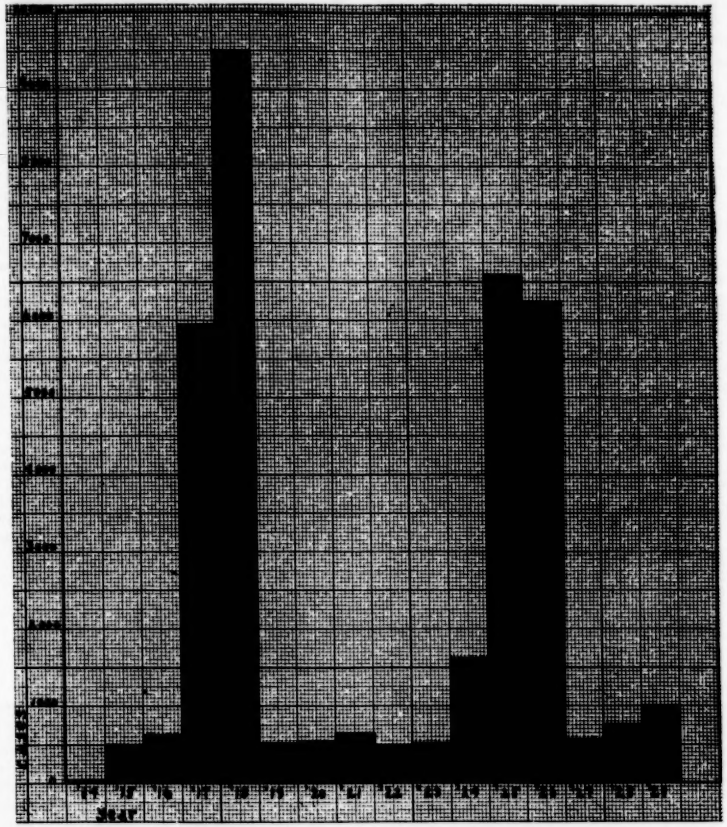

CHART 1.
Incidence of Rubella in Massachusetts—1914-1929 inclusive.

one of which later presented a deformity fixation. In two cases acute nephritis was noted. . . . Endocarditis as a complication was noted in one case, and otitis media in eight cases. Pneumonia never followed any case in this series and many death (1926). These deaths were most likely due to complications.

The most important diseases to be considered in differential diagnosis are measles, scarlet fever, and perhaps "fourth disease".

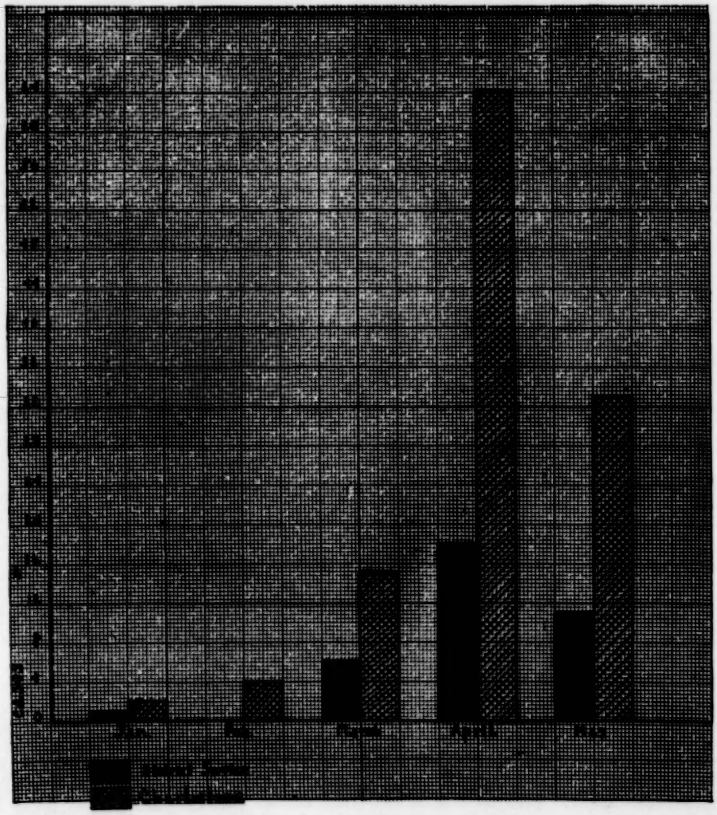

CHART 2.

Comparison of the total number of cases reported from Charlestown with the cases seen by the District Service—1930.

patients could not be regarded as getting the best medical and nursing care."

There were no fatalities in this epidemic. Deaths from this disease are rare. There were only twenty-six (26) deaths in a total of 35,879 cases recorded in Massachusetts from the time rubella became a reportable disease, in 1914, until 1929, inclusive. During the same period of time Boston reported 5,723 cases with only one

Measles: Catarrhal symptoms are usually marked and precede the eruption. Koplik's spots are frequently present before the rash and sometimes are also present when the exanthem is fully developed; the rash is usually more blotchy and remains longer; pigmentation is generally present and sometimes desquamation is seen; the temperature is higher and the child usually appears sick.

Scarlet fever: Onset with high fever; vomiting; sore throat which is inflamed on inspection; strawberry tongue; circumoral pallor; the rash is finer in type, usually bright red, accentuated in the folds, not present on the face; the child usually appears sick; the skin desquamates and frequently itches.

"Fourth disease" (Dukes-Filatow): Acute onset with high fever; general malaise; severe headache; the pyrexia lasts for several days; desquamation is usually present and itching may be severe; lymph nodes are only slightly enlarged, if at all.

The diagnosis is not difficult if one evaluates carefully the history and physical examination. Let us consider, first, the history: (1) onset with rash the initial symptom; (2) the paucity or entire absence of constitutional symptoms; (3) absence of itching. Secondly, physical examination. On inspection, the child does not appear to be sick; the type of lesions and their distribution are noted and the fact that they are most prominent on the extremities; the temperature is normal or only slightly elevated; the posterior cervical nodes are enlarged. The evanescent character of the eruption is noted on the following day, if a history of its quick disappearance has not already been obtained.

The symptoms, if any are present, are usually so mild that no treatment except general care is necessary. Isolation is required. The Boston Board of Health Department isolates the patient for a period of eight days from the appearance of the rash. Adult contacts may go out and may work. The physicians of the Boston schools exclude from school, for a period of three weeks, contacts who have not had German measles. The so-called immune contacts, i.e., those who have had rubella, are not excluded from school.

SUMMARY

The epidemic of rubella which occurred in Charlestown, Massachusetts, from January to June 1930, was characterized by the following:

1. Its mildness—the children did not appear to be sick.
2. The almost total absence of catarrhal symptoms preceding the eruption.
3. The eruption was the first symptom noticed in 35 of the 36 cases.
4. There was neither itching nor desquamation of the skin.
5. The eruption was most prominent on the extremities and was evanescent in character.
6. Palatal rash was present in four cases.
7. Enlargement of the posterior cervical nodes was found in every case.
8. The temperature was normal or only slightly elevated; 60% of the cases had a normal temperature; in the remaining 40%, the rise of temperature varied from 0.2° F. to 1.0° F., with one exception, a temperature of 100° F.
9. There were no complications.

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PROGRESS IN INTRAVENOUS ANESTHESIA

Report of 100 Cases Under Sodium Amytal*

BY MYRON J. FOX, M.D.†

INTRODUCTION

THE recent attempt at intravenous anesthesia is, in reality, not a new innovation. It is simply a resurrection of a discarded method, the antiquity of which goes back as far as 1847. After the successful trials of inhalation anesthesia with ether, Perogoff and von Flour employed it intravenously and gave it up as dangerous. In 1872 Oré again re-introduced intravenous anesthesia, using chloral hydrate. Burckhardt, in Germany, after extensive animal experimentation with ether, chloroform and isopral, proclaimed ether-isopral as safe substances for human use. His method, with some modifications, is still advocated today. Fedoroff and Jeremisch were instrumental in introducing hedonal, a urethane derivative. It was at first hailed as a safe drug for this purpose, but further trials brought disrepute because of the high percentage of fatalities. Paraldehyde, too, was in vogue as an intravenous anesthetic, but its rapid elimination from the body precluded its use in time-consuming operative procedures.

Intravenous anesthesia remained in obscurity until 1925. A new lease of life was given it when the remarkable properties of barbituric acid derivatives became more widely known. Following Emil Fischer's synthesis of veronal (diethyl barbituric acid), a veritable barrage of new hypnotic substances appeared on the market. These were physiologically and chemically practically identical. Experimentation with them first as animal anesthetics proved quite efficacious. Fredet and Perles of France and

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Read before the Waterbury Medical Association, March, 1929.

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Bumm of Germany tried some of these derivatives of the barbituric acid series intravenously in humans with variable results. They were given up as too dangerous. It remained for Zerfas and McCallum to experiment with another member of the barbituric acid series, namely, sodium amytal. No fatalities were reported in their series of 300 cases, nor have there been any deaths announced from the thousands of trials with this drug in other clinics.

REPORT OF ONE HUNDRED CASES UNDER SODIUM AMYTAL ANESTHESIA

In our series of 100 cases, sodium amytal was administered entirely by the intravenous route. In 95 out of the 100, the anesthesia had to be supplemented with either N_2O and O_2 or ether.

METHOD OF PROCEDURE

Everything conducive to ether or other inhalation anesthetics was used preoperatively. At first ipral gr. 2 plus codeine gr. ss were administered to all patients the night before the induction. Next morning, an hour before the amytal was injected, morphine, ranging from 1/8 to 1/4 gr., plus atropin 1/150 gr. were given routinely. The infusion of the drug into the vein was almost always made in the patient's room or on the ward.

The recording of the blood pressure began just before the injection and the cuff remained on the patient's arm throughout the operation. Readings were taken at three minute intervals during the injection and later at five minute periods. Ephedrine and adrenalin, ½ cc. each, were on hand at all times. A 500 to 1000 cc. 5% glucose solution in normal saline was always set up, ready to be administered intravenously if occasion required. Each vial containing 15 grains of the amytal was dissolved in 10 cc. of sterile water. Both of these vials were supplied gratuitously by the manufacturer. A very fine needle attached to a 10 cc. syringe was inserted into a convenient vein, usually the median basilic, and a piece of adhesive was applied over it, to obviate its slipping and infiltration of the solution into surrounding tissue. An assistant announced the end of each minute for ten consecutive minutes. During the subdivided one minute intervals 1 cc. of the drug was injected slowly and continuously. At the end of one minute exactly 1 cc. was consumed. This procedure was precisely followed out for the first four to five minutes. The drug was always completely dissolved in the water so that the solution was water-clear before using it. In cases where more than fifteen grains were expected to be used, another syringe containing the necessary quantity was in readiness to be attached to the needle held securely by the adhesive. The dosage ranged from 8 to 28 grains, depending on the physical status of the patient, his weight and age. The strictest precautions were taken in regard to the transparency of the solution. On several occasions, syringes boiled in oil gave an opalescent color to an otherwise crystal-clear solution and on that score the preparations were discarded.

OBSERVATIONS

The operations for which surgical anesthesia with sodium amytal by the intravenous route were attempted ranged from hemorrhoidectomies to such major procedures as appendectomies, herniotomies, choleocystectomies, rib resections, gastroenterostomies, hysterectomies, intestinal resections, etc. Two attempts at tonsillectomy were made.

The induction in all cases did not, on an average, require more than five minutes. The shortest was two minutes and the longest twelve minutes. In five cases, although drowsiness persisted when undisturbed, on the slightest stimulation the patient easily answered questions. These patients were robust, muscular men in the early twenties.

In five cases no supplemental anesthetic was required. Every one of these patients belonged to the age group of fifty and over. One case in particular is worthy of citing. A female patient of 68 was admitted to the surgical ward with a diagnosis of strangulated umbilical hernia. She has had an umbilical hernia for 25 years and never before had any difficulty in effecting a reduction. This time, however, after unsuccessful attempts and the use of hot compresses and postural therapy, her physician, after two days' delay, sent her in to the hospital for operation. She was toxic on admission and indifferent to her surroundings. Fifteen grains of sodium amytal were administered and after the first two grains, the patient was snoring peacefully as in deep sleep. Six to eight inches of gangrenous gut were removed; a side-to-side anastomosis was made and the patient returned to the ward after two hours on the operating table. For eight hours the patient was drowsy, but easily roused when necessary. No postoperative complications were observed and there was no nausea and no vomiting. The patient made an uneventful recovery and was discharged fully restored to health in two weeks. The other four cases of this group reacted in a similar manner. Practically all were poor risks for any anesthesia, but none required supplemental anesthetics as did the others of the series.

In two cases, both rectal, one with a tuberculous fistula, the other with hemorrhoids, after 10 cc. of the solution were administered, paroxysmal spasmodic coughing continued. Ether had to be resorted to, to obviate the difficulty. On the slightest manipulation in the region of the rectum, the patients squirmed and moved in-

coördinately all over the operating table, unsterilizing the prepared fields and the people attending them.

With the exception of one solitary case, the blood pressure in every instance fell. The average systolic drop was between 40 and 60 mm. of mercury. The greatest fall was in the first case alluded to above. The blood pressure took a sudden fall from 210 to 60. With the aid of ephedrine and adrenalin and 1000 cc. of a 5% glucose solution intravenously, we succeeded in bringing it back to 150. The lowest fall was to 30.

In one case, a paradox that proves the rule occurred: An Italian of 45 was admitted for repair of a ventral hernia. The physician in charge, knowing the status of his cardiovascular system, didn't think it advisable to use ether. His extreme nervousness was another contraindication. His blood pressure before use of the drug was 180/60. Following the introduction of the drug, contrary to all expectations, the blood pressure, instead of following the customary curve of falling, reached a rather alarming peak. It ascended from 180 to 210. The patient gave us considerable anxiety, not only on account of the pressure, but the restlessness and agitation following the operation. The alarming rise following use of the solution excluded further trial. We did open the peritoneum under the influence of the drug, but manipulation of viscera and gentle traction of the peritoneum sent the systolic rate up still higher. It was finally thought best to give up this method and revert to ether. Operation was successfully completed, but the patient required considerable morphine to allay the postoperative restlessness.

After many alarms at such sudden blood pressure drops and our experience with glucose infusions, we thought it desirable to use the same procedure prophylactically, before the injection of the drug. In over thirty cases, 1000 cc. of 5% glucose in normal saline were administered half an hour before the drug was introduced. The results, although encouraging, did not warrant this extra effort, for the pressure in each instance dropped between 30 and 50 mm., although never more than that.

The cases were selected from two groups some with stable and others with unstable vasomotor systems. We further supplemented our experiments by giving each patient half (½) cc. adrenalin together with the glucose infusion. The results here were rather striking for the first part of the injection, but the evanescent action of the adrenalin soon wore off and again the pressure came down 30 to 50 mm. Our final trial was the combination of the above two procedures; that is, the use of ½ cc. of ephedrine six minutes after amytal was injected and 15 to 30 minutes following the adrenalin and the 1000 cc. 5% intravenous glucose. The initial adrenalin and the glucose infusion were dispensed with when the blood pressure was quite high to start with. An arbitrary figure of systolic range requiring preliminary adrenalin was between 100 and 110. No adrenalin was given when the systolic reading was 150 in young people. Our efforts were crowned with success in practically every instance. It must be said, however, that the pressure did not always remain unaltered. In five cases it came down 10 to 20 mm., but never more than that. In all these cases the pressure returned to its preanesthetic level in the course of 20 to 30 minutes.

Two attempts at tonsillectomy proved fruitless. The gag reflex persisted even after 15 grains of the drug were injected. Any manipulation in the region of the fauces or soft palate aroused violent gagging.

Contrary to all claims of the adequacy of the combination of sodium amytal with local anesthesia, our efforts in that direction proved futile. A young girl of 16 and a boy of 14 both had given to them 10 to 15 grains of the drug, respectively. The induction was uneventful, but when the cervical region was being infiltrated with novocaine for the removal of diseased glands, in both instances, the patients struggled, even raised their fists as if in combat. The attempts had to be given up and the anesthesia completed with ether.

One of the most interesting cases of the group was that of a woman of 63 who, after several years of gall stone colic, was finally admitted to our service in one of her paroxysms. Her heart, on physical examination, revealed a left-sided enlargement, systolic and diastolic endocardial murmurs in mitral and aortic areas, an auricular fibrillation and an irregular pulse. Her lips were cyanotic, the finger tips clubbed, the nail beds blue. There was, however, no oedema in the depending parts of body or ankles, but decompensation appeared imminent. After a week of enforced bed rest a cholecystectomy was performed under this anesthetic. The blood pressure at the time of operation was 90/60 and with the aid of the preoperative regimen already alluded to, the readings oscillated between 80/60-90/60, throughout the operation. The fibrillation, in spite of the preoperative digitalization, never subsided, but soon after the operation, as if by magic, suddenly disappeared. This woman made an uneventful recovery, returning home four weeks after operation.

Another case worthy of mention was that of a postoperative peritonitis. The noisy delirium, with its concomitant violent muscular effort, defied all narcotics in our therapeutic armamentarium. On the suggestion of the chief, sodium amytal grs. x were given. Five minutes after injection, the erstwhile maniac was reposing peacefully without a stir. He slept for 18 hours, when another dose was repeated. No more was required after the second, for the noisy delirium

merged into an unconsciousness in which the patient finally died in 10 hours.

In all our cases where the combined method of amytal and inhalation anesthetic were used, the quantity of the latter was greatly reduced. The quantity of ether used in major operations for an average person and of average duration is between 5 and 8 ounces. In only three cases can I definitely recall where more than the upper limit was necessary. Early in our first cases the amount used was estimated, while in the latter part of our experiment, the amount was actually measured. The lowest range was ½ drachm and the highest 10 ozs.—the mean average 6-½ drachms. The amount of nitrous-oxide and oxygen used was difficult to control, but from their large experience, our anesthetists record a considerable reduction.

The respiratory center in all cases was depressed. While the rate may have been increased in some cases, the amplitude was definitely reduced in all. In several cases respiration was so shallow and the respiratory excursions so retarded that artificial stimulation had to be resorted to. Pressure on both sides of the chest in many instances aroused the respiratory mechanism to greater effort. In one instance, respiration ceased or was in abeyance to such an extent as to require artificial respiration, CO_2 and O_2 inhalation, and rhythmical pulling of the tongue. To all this, the patient stubbornly refused to respond. On the suggestion of one of the workers at the Mayo Clinic the simple command "breathe!" was tried with ample reward. The patient definitely obeyed the order and started to breathe. This sounds like Voodoo medicine; nevertheless it merits recording, for it surely did work in this instance. Whatever the mechanism in back of this, the fact remains that this phenomenon is not unlike that of morphine poisoning where ceaseless activity keeps the patient from relapsing into a sleep which spells death.

The difficulty with a good many of our early cases was probably due to the routine narcotic and hypnotic drugs used the night before and again an hour before the anesthetic was injected. All these drugs have a depressing influence on the respiratory center. It seems, therefore, contrary to good judgment to narcotize this vital area when sodium amytal itself is a strong respiratory depressant. By preparing the patient preoperatively with narcotics and hypnotics we start with a depressed center, and in some cases the additional amytal produced alarming respiratory symptoms. In a few cases we omitted all hypnotics and narcotics and found a definite improvement. Although respiration was shallow, it never reached alarming proportions.

The temperature following the operation, not unlike other anesthetics, caused the usual rise for 24 hours. This, however, gradually came down to normal.

Postoperative nausea and vomiting occurred in two cases and that was due to an idiosyncrasy for the preoperative morphine medication. These patients gave definite histories of such susceptibility.

One case developed a maniacal-raving delirium. This was easily overcome by heavy morphine therapy.

All cases showed a postoperative drowsiness lasting from 8 to 24 hours. The nursing care was quite onerous in the majority of cases. Aside from these after-effects, we were unable to corroborate findings of other observers, like urinary suppression, etc.

DEDUCTIONS

1. Sodium amytal alone cannot be used as an anesthetic for major surgery, save in an occasional old or weakened individual.
2. In combination with other anesthetics, it reduces the amount of the supplement from 20% to 80%, depending, of course, on the physical status of the individual.
3. Prophylactic use of intravenous glucose, ephedrine and adrenalin preoperatively has a decided value in keeping blood pressure from falling too low.
4. In cardiac conditions such as fibrillation with imminent decompensation, it has, at least in two cases of the series, served as an effective anesthetic and undoubtedly saved the lives of these two patients.
5. Narcotics and hypnotics preoperatively should not be used, for amytal itself is a potent respiratory depressant.
6. When respiratory failure is impending, a mere command to breathe has saved the situation in one case at least, when respiratory stimulants and artificial respiration proved inadequate.

DR. CHARLES DICKENS*

BY DWIGHT O'HARA, M.D.†

OF all the groups who find themselves characterized in Dickens' pages, perhaps none should be more grateful for kindly treatment than the doctors. To be sure, they are sometimes handled facetiously. The physician who first attends Oliver Twist is a plausible fraud; the Sawbones in *Pickwick Papers* are rather boisterous fellows; Mr. Chillip, worthy obstetrician that he is, becomes insignificant in ushering David Copperfield into the world; there occasionally appear such shabby disciples of Aes-

*Read before the Newton Medical Club, October 13, 1930.

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culapius as the doctor and nurse who officiated at the Marshalsea prison, not to mention the immortal Sarah Gamp; and yet, there is hardly a vicious character among them.

On the other hand, Dickens portrayed the gentle and kindly characteristics of several doctors. And when the occasion presents itself, in *Little Dorrit*, we find his eloquence quite equal to that of Stevenson's well known encomium to "the flower (such as it is) of our civilization"—

> . . . Physician was a quiet man, who performed neither on his own trumpet nor on the trumpets of other people. Many wonderful things did he see and hear, and much irreconcilable moral contradiction did he pass his life among; yet his equality of compassion was no more disturbed than the Divine Master's of all healing was. He went, like the rain, among the just and unjust, doing all the good he could, and neither proclaiming it in the synagogues nor at the corners of streets. . . . Where he was, something real was. And half a grain of reality, like the smallest portion of some other scarce natural production, will flavor an enormous quantity of diluent.

Dickens' knowledge of clinical pathology, even judged by Victorian standards, is far from accurate. Nevertheless he has embellished his characters with many specious signs. The hysterical paralyses of Mrs. Clennam, and the torticollis of Mr. Flintwinch, in *Little Dorrit;* the Parkinsonian syndrome of old John Willet, in *Barnaby Rudge;* the fat boy with narcolepsy, in *Pickwick Papers;* the paranoid insanity of Miss Havisham, in *Great Expectations;* the monstrous character of Daniel Quilp, which is a fortuitous combination of achondroplasia and sadism, in *The Old Curiosity Shop.* These all help the doctor to visualize the characters because they are descriptions of first-hand observations. There may be, as affirmed in a late statement from the Massachusetts General Hospital, no such thing as emphysema, but we have all seen men go down, as the turnkey who died on the lock of the Marshalsea prison:—

> Time went on, and the turnkey began to fail. His chest swelled, and his legs got weak, and he was short of breath. . . . He sat in an armchair with a cushion, and sometimes wheezed so, for minutes together, that he couldn't turn the key.

Writers of fiction and dramatists probably take greater liberties with the portrayal of deathbed scenes than with any other material familiar to us. In this regard Dickens is no exception, but he has, at more than one death-bed, emphasized the phenomenon of failing vision. Dying people are apt to lose their senses in the same order that they are lost in taking an anaesthetic—that is, taste and smell first, sight next, and last of all the sense of hearing. So we sometimes find our dying patients complaining of the growing darkness, in broad daylight, and while they are still oriented and rational. Dr. Worcester refers to this in his lecture on *The Care of the Dying,* and I have once seen it myself. I speak of this because it is utilized in the account of the death of Little Jo, in *Bleak House.* In abridging it here I am aware of weakening a fine piece of literature. Early in the recital the doctor tells Little Jo to "draw breath". "It draws," says Jo, "as heavy as a cart", . . . "and rattles like it". This figure of a cart rattling to pieces over a rough road is carried through the scene. Near the end the doctor asks Jo if he ever knew a prayer, to which Jo replies, "Never know'd nothink, sir." Finally Jo starts up with a wild look and says, "Its time for me to go to that there berryin' ground, sir." The doctor asks him what burying ground, to which he replies:—

> "Where they laid him as wos wery good to me: wery good to me indeed, he wos. Its time for me to go down to that there berryin' ground, sir, and ask to be put along with him. I wants to go there and be berried. He used fur to say to me, 'I am as poor as you today Jo', he ses. I wants to tell him that I am as poor as him now, and have come there to be laid along with him."
>
> "By-and-by, Jo, by-and-by."
>
> "Ah! P'raps they wouldn't do it if I wos to go myself. But will you promise to have me took there, sir, and laid along with him?"
>
> "I will, indeed."
>
> "Thankee sir. Thankee sir! They'll have to get the key of the gate afore they can take me in, for its allus locked. And there's a step there, as I used fur to clean with my broom.—Its turned wery dark, sir. Is there any light a-comin?"
>
> "It is coming fast, Jo."
>
> Fast. The cart is shaken all to pieces, and the rugged road is very near its end.
>
> "Jo, my poor fellow!"
>
> "I hear you, sir, in the dark, but I'm a gropin—a gropin—let me catch hold of your hand."
>
> "Jo, can you say what I say?"
>
> "I'll say anythink as you say, sir, for I knows it's good."
>
> "Our Father."
>
> "Our Father!—yes, that's wery good, sir!"
>
> "Which art in Heaven."
>
> "Art in Heaven—is the light a-comin, sir?"
>
> "It is close at hand. Hallowed be Thy name!"
>
> "Hallowed be—Thy—name!"
>
> The light is come upon the dark benighted way. Dead!
>
> Dead, your Majesty. Dead, my lords and gentlemen. Dead. Right Reverends and Wrong Reverends of every order. Dead, men and women, born with Heavenly compassion in your hearts. And dying thus around us, every day!

In the story of the fatal illness of the orphan Johnny, in *Our Mutual Friend,* we find that the disease is a contagious one; that it is accompanied by a rash consistent in character and distribution with that of measles; that there is expressed the old fear of the rash striking inwards; and lastly that there is much respiratory embarrassment. This picture of measles-pneumonia is eloquently expressed by the simple Mr. Sloppy, who no doubt mistrusts the name measles because the doctor has emphasized the more grave pulmonary complications invariably associated with fatal cases:—

> Mr. Sloppy having shaken his head to a considerable extent, proceeded to remark that he thought

Johnny "must have took 'em from the Minders." Being asked what he meant, he answered, them that come out upon him and particklar his chest. Being requested to explain himself, he stated that there was some of 'em wot you couldn't kiver with a sixpence. Pressed to fall back upon a nominative case, he opined that they wos about as red as ever red could be. "But as long as they strikes out'ards, sir," continued Sloppy, "they ain't so much. It's their striking in'ards that's to be kep off."

John Rokesmith hoped the child had had medical attendance? Oh yes, said Sloppy, he had been took to the doctor's shop once. And what did the doctor call it? Rokesmith asked him. After some perplexed reflection, Sloppy answered, brightening, "He called it something as wos wery long for spots." Rokesmith suggested measles. "No," said Sloppy, with confidence, "ever so much longer than *them*, sir!" (Mr. Sloppy was elevated by this fact, and seemed to consider that it reflected credit on the poor little patient.)

Mr. Rokesmith hopes that he will "work round".

"I hope so," answered Sloppy. "It all depends on their striking in'ards." He then went on to say that whether Johnny had "took 'em" from the Minders, or whether the Minders had "took 'em" from Johnny, the Minders had been sent home and had "got 'em". Furthermore, that Mrs. Higden's days and nights being devoted to Our Johnny who was never out of her lap, the whole of the mangling arrangements had devolved upon himself, and he had had "rayther a tight time". The ungainly piece of honesty beamed and blushed as he said it, quite enraptured with the remembrance of having been serviceable.

"Last night," said Sloppy, "when I was a-turning at the wheel pretty late, the mangle seemed to go like Our Johnny's breathing. It begun beautiful, then as it went out it shook a little and got unsteady, then as it took the turn to come home it had a rattle-like and lumbered a bit, then it come smooth and so it went on till I scarce know'd which was mangle and which Our Johnny. Nor Our Johnny, he scarce know'd either, for sometimes when the mangle lumbers he says, 'Me choking, Granny!' and Mrs. Higden holds him up in her lap and says to me 'Bide a bit, Sloppy,' and we all stops together. And when Our Johnny gets his breathing again, I turns again, and we all goes on together."

One of the delightful things about Dickens' stories is that they eventually come to such retributive conclusions. Thus we know, in *Martin Chuzzlewit*, that the arch villain, Jonas, will come to some violent end. And so he does when he takes cyanide, not specified as such, but artfully identified in the following passage:

He whined, and cried, and cursed, and entreated them, and struggled, and submitted, in the same breath, and had no power to stand. But they got him away and into the coach, where they put him on the seat, but he soon fell moaning down among the straw at the bottom, and lay there.

The two men were with him; Slyme being on the box with the driver; and they let him lie. Happening to pass a fruiterer's on their way; the door of which was open, though the shop was by this time shut; one of them remarked how faint the peaches smelt.

The other assented at the moment, but presently stooped down in quick alarm, and looked at the prisoner.

"Stop the coach! He has poisoned himself! The smell comes from this bottle in his hand!"

The hand had shut upon it tight. With that rigidity of grasp with which no living man, in the full strength and energy of life, can clutch a prize he has won.

They dragged him out, into the dark street; but judge, jury, and hangman could have done no more, and could do nothing now."

The description of pulmonary tuberculosis, in *Nicholas Nickleby*, is, from the diagnostic viewpoint, the equivalent of a clinical history and physical examination. We only find ourselves wondering how extensive the areas of amphoric breathing may be. The victim is Smike, who dies in the midway of the story.

. . . less friendly eyes might have seen in him no cause for any misgiving. But there were times—and often too—when the sunken eye was too bright, the hollow cheek too flushed, the breath too thick and heavy in its course, the frame too feeble and exhausted, to escape their regard and notice.

There is a dread disease which so prepares its victim, as it were, for death; which so refines it of its grosser aspect, and throws around familiar looks unearthly indications of the coming change—a dread disease, in which the struggle between soul and body is so gradual, quiet, and solemn, and the result so sure, that day by day, and grain by grain, the mortal part wastes and withers away, so that the spirit grows light and sanguine with its lightening load, and feeling immortality at hand, deems it but a new term of mortal life—a disease in which death and life are so strangely blended, that death takes on the glow and hue of life, and life the gaunt and grisly form of death—a disease which medicine never cured, wealth warded off, or poverty could boast exemption from—which sometimes moves in giant strides, and sometimes at a tardy sluggish pace, but, slow or quick, is ever sure and certain.

Man's universal hunger for information, regardless of its truth or accuracy, frequently gives rise to a very bizarre pathology, as related in the public press. This credulity in regard to morbid processes is played upon in an entertaining way in the following paragraph from *Little Dorrit*. After he has done away with the great Mr. Merdle, Dickens says:

The report that the great man was dead got about with astonishing rapidity. At first he was dead of all the diseases that ever were known, and of several bran-new maladies invented with the speed of light to meet the demand of the occasion. He had concealed a dropsy from infancy, he had inherited a large estate of water on the chest from his grandfather, he had had an operation performed upon him every morning of his life for eighteen years, he had been subject to the explosion of important veins in his body after the manner of fireworks, he had had something the matter with his lungs, he had had something the matter with his heart, he had had something the matter with his brain. Five hundred people who sat down to breakfast entirely uninformed on the whole subject, believed before they had done breakfast that they privately and personally knew Physician to have said to Mr. Merdle, "You must expect to go out some day, like the snuff of a candle," and that they knew Mr. Merdle to have said to Physician, "A man can die but once." By about eleven o'clock in the forenoon, something the matter with the brain, became the favorite; and by twelve the something had been distinctly ascertained to be "Pressure."

Dickens himself, however, could be fully as credulous as his fellow men, to illustrate which I am going to read, somewhat at length, from Chapter XXXII in *Bleak House*. The title of the chapter is "The Appointed Time," and it refers to midnight, when Mr. Weevle and Mr. Guppy have an appointment with Krook, a man who kept a Rag and Bottle Shop near Lincoln's Inn, and who was "continual in liquor". One lives in hope that this may yet be used, in these days, as an argument for prohibition.

It is night in Lincoln's Inn—perplexed and troublous valley of the shadow of the law, where suitors generally find but little day—and fat candles are snuffed out in offices, and clerks have rattled down the crazy wooden stairs, and dispersed. The bell that rings at nine o'clock has ceased its doleful clangor about nothing; the gates are shut; and the night porter, a solemn warder, with a mighty power of sleep, keeps guard in his lodge. From tiers of staircase windows, clogged lamps like the eyes of Equity, bleared Argus, with a fathomless pocket for every eye, and an eye upon it, dimly blink at the stars. . . . It is a close night, though the damp cold is searching, too; and there is a laggard mist a little way up in the air. It is a fine, steaming night to turn the slaughter houses, the unwholesome trades, the sewerage, bad water, and burial grounds to account, and give the Registrar of Deaths some extra business. It may be something in the air—there is plenty in it—or it may be something in himself, that is at fault; but Mr. Weevle is very ill at ease. He comes and goes between his own room and the open street door, twenty times an hour. He has been doing so ever since it fell dark.

Mr. Weevle has some desultory conversation with the neighbors while he seems to be anxiously awaiting someone.

This fellow approaches as he speaks. Mr. Weevle softly holds up his finger, and draws him into the passage, and closes the street door. Then, they go up stairs; Mr. Weevle heavily, and Mr. Guppy (for it is he) very lightly indeed. When they are shut into the back room, they speak low.

"I thought you had gone to Jericho at least, instead of coming here," says Tony.

"Why, I said about ten."

"You said about ten," Tony repeats, "Yes, so you did say about ten. But, according to my count, it's ten times ten—it's a hundred o'clock. I never had such a night in my life!"

"What has been the matter?"

"That's it!" says Tony, "Nothing has been the matter. But, here have I been stewing and fuming in this jolly old crib, till I have had the horrors falling on me thick as hail. *There's* a blessed looking candle!" says Tony, pointing to the heavily burning taper on his table with a great cabbage head and a long winding sheet.

"That's easily improved," Mr. Guppy observes, as he takes the snuffers in hand.

"*Is* it?" returns his friend. "Not so easily as you think. It has been smouldering like that, ever since it was lighted."

. . . . . .

Mr. Guppy . . . happens to look at his coat sleeve. It takes his attention. He stares at it, aghast.

"Why, Tony, what on earth is going on in this house tonight? Is there a chimney on fire?"

"Chimney on fire!"

"Ah!" returns Mr. Guppy. "See how the soot's falling. See here, on my arm! See again, on the table here! Confound the stuff, it won't blow off—smears, like black fat!"

They look at one another, and Tony goes listening to the door, and a little way up stairs, and a little way down stairs. Comes back, and says it's all right, and all quiet; and quotes the remark he lately made to Mr. Snagsby, about their cooking chops at the Sol's Arms.

They continue to talk, nervously, until after the clocks have struck eleven. Their appointment with Mr. Krook, downstairs, is at midnight. Suddenly Mr. Guppy bursts out again:

"Pah! Here's more of this hateful soot hanging about," says he. "Let us open the window a bit, and get a mouthful of air. It's too close."

He raises the sash, and they both rest on the window-sill, half in and half out of the room. . . .

Here they continue their conversation in whispers, until Mr. Guppy, thoughtfully tapping the window-sill, hastily draws his hand away.

"What in the Devil's name," he says, "is this! Look at my fingers!"

A thick yellow liquor defiles them, which is offensive to the touch and sight, and more offensive to the smell. A stagnant, sickening oil, with some natural repulsion in it that makes them both shudder.

"What have you been doing here? What have you been pouring out of window?"

"I pouring out of window! Nothing, I swear! Never, since I have been here!" cries the lodger.

And yet look here—and look here! When he brings the candle, here, from the corner of the window-sill, it slowly drips and creeps away down the bricks; here, lies in a little thick nauseous pool.

"This is a horrible house," says Mr. Guppy, shutting down the window. "Give me some water, or I shall cut my hand off."

He so washes, and rubs, and scrubs, and smells, and washes, that he has not long restored himself with a glass of brandy, and stood silently before the fire, when St. Paul's bell strikes twelve, and all those other bells strike twelve from their towers of various heights in the dark air, and in their many tones. When all is quiet again, the lodger says: "Its the appointed time at last. Shall I go?"

Mr. Guppy nods, and gives him a "lucky touch" on the back; but not with his washed hand, though it is his right hand.

He goes down stairs; and Mr. Guppy tries to compose himself, before the fire, for waiting a long time. But in no more than a minute or two the stairs creak, and Tony comes swiftly back.

"Have you got them?"

"Got them! No. The old man's not there."

He has been so horribly frightened in the short interval, that his terror seizes the other, who makes a rush at him, and asks loudly, "What's the matter."

"I couldn't make him hear, and I softly opened the door and looked in. And the burning smell is there—and the soot is there, and the oil is there—and he is not there!" Tony ends this with a groan.

Mr. Guppy takes the light. They go down, more dead than alive, and holding one another, push open the door of the back shop. The cat has retreated close to it, and stands snarling—not at them; at something on the ground, before the fire. There is very little fire left in the grate, but there is a smouldering, suffocating vapor in the room, and a dark greasy coating on the walls and ceiling. The chairs and table, and the bottle so rarely absent from the table, all stand as usual. On one chair-back hang the old man's hairy cap and coat.

"Look!" whispers the lodger, pointing his friend's attention to these objects with a trembling finger.

"I told you so. When I saw him last, he took his cap off, took out the little bundle of old letters, hung his cap upon the back of the old chair—his coat was there already, for he had pulled that off, before he went to put the shutters up—and I left him turning the letters over in his hand, standing just where that crumpled black thing is upon the floor."

Is he hanging somewhere? They look up. No.

. . . . . .

They advance slowly, looking at all these things. The cat remains where they found her, still snarling at the something on the ground, before the fire and between the two chairs. What is it? Hold up the light.

Here is a small burnt patch of flooring; here is the tinder from a little bundle of burnt paper, but not so light as usual, seeming to be steeped in something; and here is—is it the cinder of a small charred and broken log of wood sprinkled with white ashes, or is it coal? O Horror he *is* here! and this, from which we run away, striking out the light and overturning one another into the street, is all that represents him.

Help, help, help! come into this house for Heaven's sake!

Plenty will come in, but none can help. The Lord Chancellor of that Court, true to his title in his last act, has died the death of all Lord Chancellors in all Courts, and of all authorities in all places under all names soever, where false pretenses are made, and where injustice is done. Call the death by any name Your Highness will, or say it might have been prevented how you will, it is the same death eternally—inborn, inbred, engendered in the corrupted humors of the vicious body itself, and that only—Spontaneous Combustion, and none other of all the deaths that can be died.

The most astounding thing about this most astounding cause of death is that not only in a later chapter but in the preface to later editions of the story, Dickens stoutly maintained that he had carefully investigated the subject, that the phenomenon had occurred "beyond all rational doubt", and that there were about thirty cases on record. Furthermore, he gives references to supposedly authentic investigations of actual occurrences.

Of course it is easy for us now to recognize the grotesque absurdities of the past. Our own medical literature is full of them, side by side with peerless descriptions of diseases as we still see them. The former are based on hearsay evidence; they become ridiculous and evaporate. The latter are based on careful observation; they become classic and endure.

Such are the changes that a few years bring about, and so do things pass away, like a tale that is told!

AN IMPORTANT PHASE OF AMERICAN LIFE

Dr. Abraham Myerson, who stands as an authority in psychiatry and neurology, recently delivered an address in Chicago in which he developed his conception of American life as indicative of a nervously exhausted people. In a few words he expressed the opinion that the great output of mechanical and business inventions, as shown by electric lights, telephones, radios and motor appliances, as well as mass production in our corporate organizations, was "throttling us into nervous exhaustion day by day". This opinion seems to have been approved to a certain degree by foreigners who have observed the conditions of industry and home life in this country. Even the various forms of amusement and entertainment have developed a new excitement which has produced physical exhaustion.

Comparing this country with the older nations of Europe, there seems to be more time devoted to rest and relaxation in the foreign countries (which is especially marked in their metropolitan areas) than in America. The trouble does not seem to be wholly due to the intensive application of the American people to work, but rather that supposed recreations sap our nervous energy.

Editorials in other publications seem to indicate that Dr. Myerson's conception is correct and a worthwhile résumé regarding the conditions existing in this country.

THE WHITE HOUSE CONFERENCE ON CHILD HEALTH AND PROTECTION

An interesting feature of one of the sessions of the recent White House Conference on Child Health and Protection was that relating to the recommendation that the health activities of the Children's Bureau be removed from that office and placed in the hands of the United States Public Health Service. This recommendation did not meet with the approval of a number of physicians. Among the protestants were Dr. Robert L. DeNormandie of Boston, Dean M. C. Winternitz of Yale, Dr. D. A. Park of Johns Hopkins, Dr. Grover F. Powers of Yale, and two leaders of the Washington University School of Medicine in St. Louis.

One of the very active advocates of the change was Dr. Haven Emerson, chairman of the survey committee, who felt that general considerations of efficiency and centralization were important with reference to this transfer. He is reported to have said that the nation's public health service is a natural agency to take over work for the health of the nation's children.

CASE RECORDS
of the
MASSACHUSETTS GENERAL HOSPITAL
ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

EDITED BY RICHARD C. CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 16481

HEMOPTYSIS—TWO QUARTS OF BLOOD

MEDICAL DEPARTMENT

An American Negro of forty-two, a fish cleaner, entered July 7 complaining of hemoptysis of four months' duration.

Four years before admission he had one to three night sweats a week, more frequent and severe as he worked harder. For two years he had had none. For four or five years his appetite had been poor. He had lost twenty pounds since autumn, though he had gained six in the past month. Seven months before admission he had a bad cold which persisted. Before this he had had rather frequent but not severe colds. He began to have severe pounding headaches in the top of his head with occasional pain running down the back of his neck. He had nosebleeds on exertion. His physician told him he had a high blood pressure and prescribed medicine. Four months before admission he contracted another cold. The nosebleeds became more severe and occurred twelve to sixteen times a day. He packed his nose himself with cotton. The headaches were worse. The cold grew more severe and settled in his chest. He had a bad cough, and at one time a fever of 104° and chills. He had some blood streaked sputum, but never raised much blood. He recovered from this acute attack, which his doctor called bronchitis, but continued to have cough and sputum, sometimes blood tinged. He remained in this condition, on and off his feet intermittently, unable to work, until the day before admission. That morning he had a severe nosebleed. He stayed in bed for the rest of the day. At five o'clock he coughed for an hour and raised more than a quart of blood, liquid and in clots. After his physician gave liquid medicine by mouth the gross bleeding stopped, though the sputum was still blood tinged. That night he wakened several times to cough, each time with blood tinged sputum. All through the day of admission he coughed at times, usually with blood streaked sputum. At five o'clock he had another paroxysm of coughing, with hemoptysis of about two quarts of liquid and clotted blood.

He worked in ice and on a wet floor all the time.

The past history is negative except for pains running down the extensor surfaces of the arms "for years".

His father was found dead in bed in a pool of blood from his mouth. His mother died with a septic leg and a long-standing "bronchitis". One brother dropped dead in his chair. There was no known history of tuberculosis. Seven of the patient's eight children died in infancy.

He was rather excitable and unstable. The history was thought to be none too reliable except in the main outlines.

Clinical examination showed a fairly well developed and nourished Negro, frightened, breathing rapidly, with blood on his lips and in the basin beside him. Teeth very carious. Nostrils obstructed with blood and crusts. A string of pea to bean sized right cervical glands, an olive sized right tonsillar gland, and a small mass of matted glands in each axilla. Heart measurements not recorded. Sounds regular, of fair quality. No murmurs made out. Pulses slapping, rate 150. Blood pressure 135/90 to 155/90. In the right apex in front dullness, increased bronchial breathing and voice and coarse râles down to the level of the fifth rib. Coarse râles in the left axilla. Right side sunken, did not move. Back not examined at admission. Liver enlarged. Edge felt. Pupils did not react to light. Extremities and reflexes not recorded.

Urine normal except for 0—2 leukocytes in the sediment. Blood: 12,400 leukocytes, 76 per cent polynuclears, hemoglobin 65 per cent, reds 3,650,000, moderate achromia.

Temperature 100.9° to 105.1°, with drops to 95.1° and 98.4° July 16 and 27. During the last ten days the temperature showed daily septic swinging, 2-3½ degrees. Pulse 80 to 168. Respirations 20 to 47, with one increase to 60 July 23.

X-ray examination showed the diaphragm high on the left, sharply outlined on both sides. The costophrenic angles were clear. There was an area of rather finely mottled dullness in the region of the right upper lobe extending from the clavicle to the level of the third rib anteriorly. The dullness was confluent and sharply bounded below, fading out above. There also appeared to be considerable mottling in the entire left chest. The right apex appeared clear. The left apex appeared to show the same mottling as the remainder of the left chest.

On July 8 and 9 the patient was delirious and got out of bed. July 8 the chest showed dullness, increased bronchial breathing and medium râles at the right apex posteriorly and throughout the right back, dullness and a few râles at the left base posteriorly and râles at the left base in front. There were also scattered râles throughout both lungs. The night of July 9 the neck was stiff. July 10 and 11 he was much better, only occasionally irrational, the neck not

stiff. There were râles all over the front of the chest. The abdomen was slightly distended.

The night of July 13 he had hemoptysis of six ounces of thick bright red fluid. The blood pressure was 130/100. July 16 the temperature fell to 95° by rectum. Later the patient was up and about, apparently better. The back showed slight dullness, a few râles and increased whisper over the right scapula, slight dullness at the left base. In front there was dullness and much increased whisper over the right upper chest, râles at the right base. July 19 the patient had hemoptysis of four ounces which he said followed pleuritic pain causing cough. There were râles throughout the right chest front and back, at the left base behind, and a rub at the left base in front. The temperature was 102° to 104.5°, the pulse 105 to 150, the respirations 27 to 60. July 27 the temperature dropped to 98.3°, while the pulse continued high and feeble, 120 to 168. The patient grew steadily weaker. The chest filled with bubbling râles. The neck showed spasmodic jerking. August 6 he died.

Clinical Discussion

BY RICHARD C. CABOT, M.D., AND AUBREY O. HAMPTON, M.D.

NOTES ON THE HISTORY

Dr. Cabot: This is an unusual history. If you have hemoptysis you generally do not have it so steadily for four months. You either get well or something happens. I should like to know what the medicine given for high blood pressure was if it did any good. "Hemoptysis of a quart" is a tremendous statement. Of course it did not come from the nose. I know only one or two things that could have caused it. Of course we are often interested in whether there is air mixed in the blood. Let us make some guesses at this point. I take it he coughed up a good deal of blood. Let us assume that it was coughed, not vomited. What are the probable causes? Aneurysm first, tuberculosis second, abscess or malignant disease of the lung third. That is all that I know of. If it was not coughed but vomited it might be from cirrhosis of the liver (varicose veins in the esophagus). It might conceivably be from peptic ulcer, but that would not be likely without previous symptoms. Of course his being a Negro prejudices us towards aneurysm or tuberculosis, both causes of large hemoptysis. Hence those diseases are in my mind as we go on to read the physical examination.

NOTES ON THE PHYSICAL EXAMINATION

His being well nourished is against tuberculosis, but does not exclude it. There is no evidence of aneurysm so far. It may be there but it is not likely. "Increased bronchial breathing" is a poor term. Increased over what? Perhaps it means loud bronchial breathing. That lung examination as written,—localized râles and bronchial breathing,—points to tuberculosis. Pneumonia would not cause hemoptysis. It might come from abscess of the lung, but there is no cause for that in the history, and abscess of the lung can usually be traced in the history. Presumably the pupils did react to accommodation though not to light. This makes us suspect syphilis; therefore it probably has not much to do with the cause of death. The anemia is presumably from recent bleeding. There naturally would be septic swinging of temperature in tuberculosis. Looking at the chart I should say the pulse is relatively high and the respiratory rate rather high.

Dr. Hampton: In this film of the chest there is diffuse mottled dullness in both lungs. This is most dense in the region of the right upper lobe, where it is rather confluent. The areas of density in the lower part of the right lung and the left lung are discrete, dense, and sharply defined, being separated by small areas of normal lung. This type of consolidation is usually assumed to be due to a chronic diffuse infection. The edge of the partially collapsed right lower lobe is visible and is separated from the ribs by a clear space which is probably air within the pleural cavity. The heart and mediastinum are not displaced. The heart shadow does not appear enlarged and there is no evidence of aneurysm. The left side of the diaphragm is slightly elevated.

Dr. Cabot: What is that sharp horizontal line on the right?

Dr. Hampton: That is the lower limit of the right upper lobe.

Dr. Cabot: Tuberculosis then is very strongly on our minds. There is still a possibility of abscess formation in which bleeding may be profuse. The lung signs on July 8 indicate that the process had become generalized. We do not know why the temperature was subnormal on July 16. Can you give us the date of that film, Dr. Hampton?

Dr. Hampton: It was taken July 8.

Dr. Cabot: So it was near the beginning.

DIFFERENTIAL DIAGNOSIS

Then we are certain of a process which largely infiltrates both lungs, which has caused repeated hemoptysis, fever, pneumothorax, and death. I know only one common disease that does that,—pulmonary tuberculosis, which in all probability has become generalized miliary tuberculosis in the end. We had an earlier history of high blood pressure and nose bleeds. That suggests chronic nephritis. We are not told much about the urine. But those nose bleeds are certainly not due to tuberculosis. The high blood pressure is not due to tuberculosis, which lowers the blood pressure if it has any effect

at all. They did not examine the blood for retention products. It is quite possible that there is some form of nephritis, perhaps amyloid reaction from the tuberculosis. I do not know any way in which amyloid nephritis can be recognized with any certainty during life. It seems to me that we might guess that he has amyloid or some other type of nephritis on the basis of headaches, nose bleeds, and the report of high blood pressure. We did not ourselves find the blood pressure high, only 130/100. The x-ray did not show any enlargement of the left ventricle, which often goes with some types of nephritis, but not with amyloid. Aside from this have we any reason to suspect disease elsewhere than in the places we mentioned? I do not see that we have. What about syphilis? I think it is quite possible that he had syphilitic infections. The clinically recognizable types of syphilis do not seem to be here present. We do not know about the reflexes. We have only this one fact suggesting syphilis—the pupils.

A STUDENT: How about syphilis causing nose bleeds?

DR. CABOT: I never heard of it. I would not say it does not occur, but it is a new thing to me. The syphilitic nasal lesion is in the nasal bones or often in the septum, an ulcerative, perforative process, but not causing violent hemorrhage as far as I know.

A STUDENT: Can tuberculosis cause Argyll-Robertson pupils?

DR. CABOT: No, I never heard of it.

A STUDENT: Would that cause enlarged axillary lymph nodes?

DR. CABOT: Yes, it often does. Ordinarily however tuberculous glands could be identified as such and would show signs of breaking down, caseation or attachment of the skin. It is conceivable that they are tuberculous.

A STUDENT: What were the calcified glands in the neck?

DR. CABOT: Those I think were negative.

A STUDENT: Do you always put aneurysm ahead of tuberculosis when you have hemoptysis?

DR. CABOT: No. I should do so only when blood comes up in the largest amounts. And he is a Negro; therefore we suspect syphilis. I should say in general that pulmonary tuberculosis is much more probable than any other cause of hemoptysis.

A STUDENT: If he had aneurysm and lost all that blood he would have died right away.

DR. CABOT: Yes, most probably.

A STUDENT: What is meant by a "slapping pulse"?

DR. CABOT: I do not know. I do not like the term. It probably means a pulse that rises and falls swiftly, the pulse we often get after hemorrhage; a jumping pulse.

A STUDENT: Is clotting of the blood common in hemoptysis?

DR. CABOT: Yes, not uncommon.

A STUDENT: What accounts for the stiffness of the neck?

DR. CABOT: I think the stiffness of the neck is due to tuberculous meningitis.

A STUDENT: Would that clear up?

DR. CABOT: Meningitis would not, but stiffness of the neck might.

A STUDENT: In the early part of the history of pain in the neck the pain radiated downward.

DR. CABOT: Yes. That early history I do not believe was meningitis. We cannot be certain of meningitis at the end. It is perfectly possible,—rather more probable than not.

BACTERIOLOGIC REPORT

The sputum was loaded with tubercle bacilli.

X-RAY INTERPRETATION

The appearance is that of a widespread discrete pneumonic process which may be of tuberculous origin.

CLINICAL DIAGNOSIS

Pulmonary tuberculosis.

DR. RICHARD C. CABOT'S DIAGNOSES

Pulmonary tuberculosis.
Probably generalized miliary tuberculosis.
Chronic nephritis?

ANATOMIC DIAGNOSES

1. *Primary disease.*
   Pulmonary tuberculosis.
   Tuberculous pneumonia.
2. *Secondary or terminal lesions.*
   Hypertrophy of the heart.
   Arteriosclerosis.
   Slight arteriolar sclerosis in the kidneys.

PATHOLOGIC DISCUSSION

DR. TRACY B. MALLORY: We found at autopsy a very extensive pulmonary tuberculosis involving both lungs with cavities on both sides, respectively four and five centimeters in diameter. In the right upper lobe there was a large area of caseous pneumonia with diffuse tuberculous infiltration of the entire lung. Scattered throughout all the other lobes were miliary and conglomerate tubercles but no extensive pneumonia. The mass of axillary glands spoken of was definitely caseous. The peritoneal cavity was negative. A few scattered tubercles were found in the mucosa of the upper jejunum, a rather peculiar place, and a rare miliary tubercle in the spleen. There was no evidence of any marked degree of generalized miliary tuberculosis.

The other interesting finding was a noteworthy cardiac hypertrophy. The heart weighed 500 grams. Microscopically it showed an ex-

tremely marked degree of arteriolar sclerosis. I think there is no question at all that prior to his entry into the hospital he had a severe grade of hypertension. The acute hemorrhages that he had would explain the relative drop in blood pressure after he entered the hospital.

DR. CABOT: He did have a nephritis, then?

DR. MALLORY: I should hardly call it that. There were slight vascular changes, but not more than is usual in hypertension. There was no amyloid and I do not believe the kidneys would show renal insufficiency other than the change in blood pressure. He certainly had no nitrogen retention.

DR. CABOT: There seems then to be a primary hypertension which has not lasted long enough to produce nephritis. It doubtless would produce symptoms later. I do not know how any one can tell the difference between that type of hypertension alone and one with nephritis unless we have more evidence than we have here.

CASE 16482

AN UNUSUAL MEDICAL, SURGICAL AND NEUROLOGICAL CASE

MEDICAL AND SURGICAL DEPARTMENTS

PRESENTATION OF CASE

DR. RODERICK HEFFRON*: A thirty-two year old married American produce dealer was brought to the hospital by ambulance from Hospital A and was at once rushed into a Drinker respirator. He was accompanied by two internes from the hospital. Our rather inadequate history was obtained from them and from his wife.

Six weeks before admission the patient began to have a great deal of pain in the lower lumbar region after he had finished work and returned home for the night. This pain had no particular relation to anything, and occurred daily. Two or three weeks after its onset the pain moved up to the lower dorsal region. His doctor told him he had pleurisy and prescribed medicine which gave no relief. Two weeks before entry the pain came during the day, radiating straight through from his back to his epigastrium, and seemed to be worse after eating. He was told he had stomach trouble and was given a modified Sippy diet with powders with little relief. He continued to work until nine days before entry. Then he was waked during the night by severe paresthesia of the toes. The following day he went to the Outpatient Department of Hospital B. Again he was told he had stomach trouble and was given powders. On reaching home he was so weak that he went to bed. The following day he was unable to get out of bed and had difficulty in passing urine. He was able to void only once and then with considerable pain. The following morning he had complete retention. His doctor catheterized him and reported the urine normal. The patient was admitted to Hospital A that day. He remained on a medical service for six days until he was discharged to this hospital.

At Hospital A his physical examination was negative except for a sensory anesthesia from the knees down. The retention was treated by catheterization and constant drainage. The day after admission, five days before entry to the Massachusetts General Hospital, three lumbar punctures were attempted, each giving grossly bloody fluid and showing imperfect dynamics indicative of partial subarachnoid block. He was said to have had some temperature and a normal leukocyte count at that time. After four days he grew worse and complained of ascending numbness of the legs. A nerve consultant found a sensory level at the hips with complete paralysis from the hips down. Knee and ankle jerks were absent. A catheterized specimen of urine showed gross hematuria at that time. The general blood examination was said to have been normal.

Five days after entry to Hospital A, one day before admission here, he was again seen by a nerve consultant, who found nystagmus and the sensory level now at the umbilicus. The patient felt fairly well and had little temperature. X-rays of the spine were negative. No leukocyte count was done.

On the sixth day, the day of his admission here, he was greatly prostrated but had no pain and no particular complaints. He was almost pulseless, with a blood pressure of 70, cyanotic, cold and sweating. Just as the nerve consultant arrived at his bedside he stopped breathing. Artificial respiration was begun at once, and with this and stimulants he was kept alive four hours while arrangements were made to bring him here.

At entry here he was almost dead,—pale, sweating, cyanotic and breathing with shallow gasping respirations. The blood pressure was 70/40. He was placed in the respirator and kept there for about five hours. Then at his request he was taken out and seemed fairly comfortable. Shortly after being placed in the respirator he began to vomit, and vomited a little coffee grounds material every few minutes, and all fluids taken. His thirst was intense. The vomiting continued for two days, the vomitus showing a four-plus guaiac on one examination.

At this time his general physical examination was negative. He was found to have a sensory level at the sixth dorsal segment, and was absolutely paralyzed from there down. No nystagmus was found. His bladder was at the umbilicus. He was catheterized and the bladder decompressed at the rate of three ounces every hour all night long. The urine was a deep red,

*Recently senior interne on the East Medical service.

with gross blood. The temperature was 101°, rectal, the pulse 140 and the respiration 32.

He was out of the respirator all night long and did fairly well with the exception of two or three bad periods when there was moderate respiratory failure, relieved by caffein, adrenalin and ephedrin. His blood pressure was about 80 most of the night. The following morning he was still on the respirator table, but looked badly, with pale, cyanotic lips. Lumbar puncture showed an initial pressure of 180. About 30 cubic centimeters of hazy golden yellow fluid was removed. This fluid showed a total protein of 70, 1370 red cells and 12 leukocytes. So far as we could tell from this fluid there was no infection in the subarachnoid space. Jugular compression gave no rise in the lumbar manometer. This was indicative of a subarachnoid block. The blood pressure was so low however that it was uncertain whether the carotids had been compressed as well as the jugulars.

The laboratory findings were as follows: The leukocyte count was 33,000 at entry. It rapidly dropped to 9,000 and stayed there. The red count, smear and differential counts were normal. Two blood cultures were sterile. The Hinton was negative. The bleeding and clotting times were normal.

Eighteen hours after admission here he was seen by a nerve consultant, who said the patient obviously had a sensory level at the nipples or higher and suggested that metastatic malignancy with pathologic fracture of the spine was a possibility. Infectious myelitis was considered. He recommended a combined puncture, but agreed with us that the patient was too near death at that time to attempt it.

A urological consultant then suggested complete emptying of the bladder, filling it with an equal amount of boric solution and decompressing the bladder at the rate of four ounces every hour. This was done.

The patient spent a fairly comfortable day, requiring the respirator only once for a period of three hours for respiratory failure. The respirator was not needed again. The blood pressure slowly rose to about 100 and stayed in that vicinity. The leukocyte count remained about 9,000. His physical examination as before was essentially negative with the exception of a rather low blood pressure and poor heart sounds. There was a sensory level at about the nipples and no reflexes were present below that. Arm reflexes were present, decreased, but a little more active on the right.

X-rays of the skull and the cervical and dorsal spine and a flat plate of the kidney region showed nothing definitely abnormal and no evidence of metastases. Lateral films of the spine were not taken owing to the extreme illness of the patient.

On the fourth day his condition improved. He looked better and was taking fluids well in small amounts by mouth. Because of his improvement it was felt that he could possibly stand a combined lumbar and cistern puncture, although sudden death at any moment would not have been a surprise. The combined puncture showed an initial pressure of 40 millimeters of water in the cistern region and of zero in the lumbar region. The dynamics were imperfect and showed evidence of obvious subarachnoid block. The cistern fluid was water clear, contained one lymphocyte and gave a total protein of 20 milligrams. The lumbar fluid was golden yellow, contained 1,100 red cells and no leukocytes and gave a total protein of 61 milligrams. From the faulty dynamics and the differences in the lumbar and cistern fluids it was felt that there was probably a complete subarachnoid block present, presumably of non-infectious origin. One and three-tenths cubic centimeters of lipiodol, "heavy", was injected into the cistern through the needle and the patient was immediately taken to x-ray for fluoroscopy. Under the fluoroscope on a tilt table the lipiodol was seen to descend as far as the fourth dorsal vertebra, where practically all of it remained in a mass, a drop or two running on down the cord a little farther. X-ray plates were taken that also showed this to be true.

The patient had stopped vomiting but was still passing strawberry pink urine containing small clots of blood. Even though his general condition was rather poor it was felt that if this man was ever to get a return of function of his legs operative removal of the block and removal of the cause of pressure there was indicated, and at once.

There were four things pointing to a block at a fairly definite level; first the sensory level in the fourth to sixth dorsal region; secondly, the x-ray evidence of block with lipiodol in the same region; thirdly, the spinal fluid dynamics, indicative of block; and fourthly, the gross difference between the lumbar and cistern fluids, also pointing to the presence of a more or less complete block.

DR. GEORGE W. HOLMES: A film of the lower abdomen was taken in an attempt to show the cause of the constant bleeding from the bladder. Nothing is seen in this film to account for the symptoms. There is a good deal of free gas and I think some in the small bowel. There is nothing to suggest a calcified mass or tumor in the pelvis.

The film of the skull is of some interest, as it shows prominent markings here, especially in the base of the skull, suggesting increased intracranial pressure, not enough, I think, to say there is a destructive lesion in the bone.

We have several films here of the chest. They all show this same change at the right apex involving the greater part of the right upper lobe. The appearance is like consolidation of some sort in the lobe, and is perfectly consistent with

tuberculosis. It could also be any pneumonic process. I do not think a new growth in the apex would be likely to give that picture.

The films of the spine were all negative until they injected lipiodol; then we see the characteristic shape of lipiodol in the presence of block.

DR. HEFFRON: That evening Dr. Mixter was called to see the patient and agreed that a laminectomy should be done at once. This was done. In the third to fifth dorsal region a cigarette-sized extradural mass of grayish tissue was found compressing the spinal cord there. As much as was possible to get was removed. The patient's condition was poor, and as nothing was felt under the dura, to avoid infecting the spinal fluid and to save time the dura was not opened. The whole operation was swiftly done in about forty-five minutes. The patient was sent back to the ward in poor condition, but little worse for the operation.

Following the operation he continued to go along in about the same way and really did fairly well. His temperature was 103°, his blood pressure between 80 and 100 most of the time, but occasionally only 60 or 70. He looked badly, but had no specific complaints other than soreness about the site of operation. He had very queer alternating periods of being quite cyanotic and pulseless, two or three hours later looking quite well, then a few hours later again seeming almost at the point of death. This went on day after day. On the fifth day after operation he developed a cough with a little blood tinged sputum. The signs in the chest were few, —some elevation in pitch of breath sounds and a few râles at the right apex. He continued to run a septic type of temperature, being in very poor shape, nearly dying two or three times daily and in between the bad periods sitting up and talking with his family fairly comfortably. The urine was loaded with thick pus that frequently blocked the catheter. He developed what was thought to be a rectovesical fistula which caused some trouble and frequent blocking of the inlying catheter. His condition became progressively worse. His temperature, pulse and respirations all went up very high over a period of thirty-six hours. On the fifteenth day after operation he died.

A PHYSICIAN: Did the reflexes change after operation?

DR. HEFFRON: There were a few kicks in the legs and paresthesia down the backs of the legs to the heels. There was no reflex return and the sensory level stayed about the same.

DR. CHESTER M. JONES: One question just before the operation, when we were discussing what the process was before we definitely decided that it was block, was whether there was not a definite rise in the leukocyte count, and we wondered whether there was generalized infection.

DR. HEFFRON: The white count was 33,000 on admission.

DR. JONES: Did it drop before operation? I know it did afterward.

DR. HEFFRON: Yes; it was 9,000 the day of operation.

DR. W. JASON MIXTER: Operation consisted of a typical laminectomy with exposure of the spinal canal from the third to the fifth dorsal inclusive. On removing the laminae it was quite evident that the laminae were somewhat softened, though not extremely so. Immediately there appeared lying within the vertebral canal but outside the dura a grayish purple mass largely on the left side of the canal and compressing the dura, probably most markedly at the level of the fourth dorsal. This mass gave me the distinct impression that it was inflammatory. I felt quite sure we were dealing with a granuloma. But granulomata as a rule are not extensive and are not so purple in color as this was. The mass was removed so far as it could be without increasing the length of the incision. There did not seem to be much more below or above the limits of the laminectomy and there did not seem to be any in front of the cord.

Pathologic examination was immediately done by Dr. Bradley. He will tell you more about that. I thought it to be an inflammatory mass. However, one cannot grossly differentiate inflammatory extradural processes from certain of the new growths.

CLINICAL DIAGNOSES

Lymphoma of the spinal cord with generalized metastases.
Acute cystitis.
Transverse myelitis from tumor.
Probable pneumonia, right upper lobe.

ANATOMIC DIAGNOSES

1. *Primary disease.*

Myeloma of the bone marrow of the fourth dorsal vertebra.

2. *Secondary or terminal lesions.*

Infarcts of the right lung.
Abscess of the right lung.
Hemorrhagic cystitis.

PATHOLOGIC DISCUSSION

DR. TRACY B. MALLORY: Dr. Bradley made a frozen section at the time of operation, made a positive diagnosis of tumor and said it was probably myeloma. Following that report the question arose as to whether the other manifestations in the case could all be explained on a single basis,—not myeloma but lymphoma with infiltration of the lung, stomach and bladder. It seemed like a fairly good probability clini-

cally. I think however there is no question but the tumor has to be classified in the general group of myeloma. I mean by that simply a primary tumor of the bone marrow. It is not the typical plasma cell myeloma, and we are not able to decide which of the various other types it is. Myelomas may tend to differentiate as red cells and are then called erythroblastomas. Others tend to differentiate as endothelial cells, the so-called Ewing's tumor. This tumor falls into neither of these categories. In some areas it shows cells suggesting plasma cells, in other areas extraordinary numbers of multinucleated giant cells suggesting strongly a tumor of megakaryocytes.

It is quite remarkable that there is such extensive infiltration of the tumor through the vertebra and comparatively little destruction of the bone. No tumor was found anywhere else in the body. The lymph nodes were entirely negative. The lesion in the lung turned out to be a series of infarcts. There were several of these, some of which were bland, others septic. It is interesting that some of the vessels give evidence of quite an old process, much older than the total history of six weeks would indicate. There were relatively large arteries, filled with emboli or thrombi which had become completely organized and recanalized, which certainly could not have happened in six weeks' time.

The hematuria was apparently due to extremely marked hemorrhagic cystitis. There was no tumor in the bladder.

DR. JONES: No local cause was found for the stomach bleeding?

DR. MALLORY: There were numerous petechial hemorrhages. I have seen several cases with hematemesis, some in the hospital and some outside, where there was fairly gross hematemesis and nothing was found at autopsy except numerous petechial hemorrhages.

DR. EDWARD L. YOUNG, JR.: What about the rectovesical fistula? I have never known one to occur from an inlying catheter alone and I don't believe they ever do. If it was really present it suggests definite pathology, such as a malignancy involving bowel and bladder together.

DR. MALLORY: There was no evidence of it at autopsy. What was the reason for the gradual decompression of the bladder?

DR. YOUNG: Any bladder which becomes overdistended for any length of time has a compensation in the blood vessels of the mucous membrane to allow them to function against the tension. If such a bladder is emptied all at once it will frequently result in rupture of some of these vessels with considerable bleeding, and if any infection is present, in an acute hemorrhagic cystitis. As a rule this does not occur in cases of acute retention, only in those of long standing.

DR. HOLMES: Is it not unusual for infarcts to occur at the apex?

DR. MALLORY: Yes, it is.

DR. HOLMES: It also happened to be the right apex in this case?

DR. MALLORY: A very distinct majority of infarcts are at the right base. I should say certainly they are more usual in the bases and I should say more on the right than on the left.

DR. MIXTER: Was there anything to show why he had respiratory paralysis?

DR. MALLORY: No.

DR. JONES: The cistern pressure was not up either.

DR. MIXTER: That is the most unusual and unexplained finding in this case.

DR. MALLORY: Nothing was found above the level of the fourth dorsal vertebra.

DR. FREDERICK T. LORD: Did he have any atelectasis of the lung in this region?

DR. MALLORY: There was fairly marked generalized atelectasis of all the lobes. That is, no lobe was expanded to the normal degree.

DR. LORD: Was the right upper the largest lobe?

DR. MALLORY: Yes.

The New England
Journal of Medicine

SUCCESSOR TO
THE BOSTON MEDICAL AND SURGICAL JOURNAL

Established in 1828

Published by THE MASSACHUSETTS MEDICAL SOCIETY under the jurisdiction of the

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Material for early publication should be received not later than noon on Saturday. Orders for reprints must be sent to the Journal office, 165 Newbury Street.

The Journal does not hold itself responsible for statements made by any contributor.

Communications should be addressed to The New England Journal of Medicine, 165 Newbury Street, Boston, Mass.

POLIOMYELITIS

THERE have been numerous observations noted in the editorial columns, in recent years, on poliomyelitis. Attention has been called, especially, to the work of Aycock and his collaborators from the laboratory of the Harvard Infantile Paralysis Commission of the Harvard Medical School[1]. Aycock has shown that the normal blood serum of adults may contain antiviral bodies which protect the individual against poliomyelitis. The blood serum neutralizes the virus of the disease when tested in the laboratory. This finding is explained upon the basis of a "subclinical" infection of adults.

Fairbrother and Brown[2] have recently confirmed the work of Aycock. After testing various sera from both adults and patients convalescent from poliomyelitis they report similar findings and they conclude finally that "immunity to the poliomyelitis virus as indicated by the presence of antiviral bodies in the serum is frequently present in normal people who have been in contact with definite cases of the disease without developing it".

The importance of these findings of both Aycock and the English physicians lies largely in the field of therapy. The value of convalescent serum in the treatment of poliomyelitis is still questioned by some physicians. The reports by Aycock and others have shown, in the opinion of the writer, that convalescent serum has a distinct value in the treatment of this disease. The argument for its use is greatly enhanced by the conclusions from the laboratory that serum of both convalescent patients and of most normal adults contains antiviral bodies. If further confirmation of this work is forthcoming, it may truly be said that we are entering into a new period in the treatment of one of the most destructive diseases of child life.

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THE ETIOLOGY OF YELLOW FEVER

FEW diseases have a longer or more tragic train of martyrs from among those fighting against them than is the case with yellow fever. However, their labors have not been in vain and the disease that once swept as far north as Philadelphia has finally been driven to bay in portions of Africa and South America.

Although most textbooks still give the Leptospira icteroides of Noguchi[1] as the etiological agent, nevertheless yellow fever has now been grouped among the filtrable virus diseases. The work of Stokes, Bauer and Hudson[2] definitely proves the filtrable character of the disease virus. There is apparently no difference between the African and the South American strains. Of course the filtrable nature of the virus had been suspected and this hypothesis was tested in the work of the United States Army Commission, but their results and the later emphasis on the Leptospira icteroides has prevented the disease from being until recently classified directly among the filtrable virus diseases.

With the discovery that Aedes egypti could transmit the disease from man to monkey and from monkey to monkey, an excellent field for further investigation was opened up. In the course of further study it has been found that several other species of mosquitoes could act as vectors[3].

While a widening of the field which must be covered by those striving to control the disease is to some extent discouraging, nevertheless this is more than offset by the additional facts brought to light.

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THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

SPAULDING, JOHN D. M.D. Tufts College Medical School 1909. His subject is: "Misleading Evidence by Uroselectan Method of Urinary Tract Examination." Page 1067. Address: 10 Kenmore Street, Boston.

IRVING, FREDERICK C. A.B., M.D. Harvard 1910. F.A.C.S. Assistant Professor of Obstetrics, Harvard Medical School. Senior Assistant Visiting Obstetrician, Boston Lying-in Hospital. His subject is: "The Treatment of Eclampsia by Plasmaphaeresis." Page 1070. Address: 221 Longwood Avenue, Boston.

FOSTER, JOHN H. B.S., M.D. University of Pennsylvania 1917. Medical House Officer, Peter Bent Brigham Hospital 1917-1918. First Lieutenant, Medical Corps, U. S. General Hospital No. 14, Fort Oglethorpe, 1918-1919. Assistant in Medicine, Harvard Medical School 1923-1924, Hunan-Yale Medical School, 1919-1927. Attending Physician, Waterbury Hospital and in practice in Waterbury, Conn. His subject is: "The Practice of Medicine in China and New England with Observations on Hypertension." Page 1073. Address: 99 North Main Street, Waterbury, Conn.

BELSON, MAURICE O. B.S., M.D. Tufts College Medical School 1927. Formerly, House Officer, First Medical Service, Boston City Hospital. District Physician for the Boston Dispensary. Junior Assistant Physician, Medical Staff, Boston Dispensary. Teaching Assistant in Medicine, Tufts College Medical School. At present, House Officer on Gynecological and Obstetrical Service, Carney Hospital, Boston. His subject is: "Clinical Features of an Epidemic of Rubella." Page 1076. Address: Carney Hospital, Boston.

FOX, MYRON J. A.B., B.Sc., M.D. McGill University Faculty of Medicine 1928. Resident in Surgery, Waterbury Hospital, Waterbury, Conn. His subject is: "Progress in Intravenous Anesthesia. Report of 100 Cases Under Sodium Amytal." Page 1079. Address: Waterbury Hospital, Waterbury, Conn.

O'HARA, DWIGHT. S.B., M.D. Harvard 1919. Junior Visiting Physician, Fifth Medical Service, Boston City Hospital. Physician-in-Chief, Contagious Service, Waltham Hospital. Lecturer in Therapeutics and Instructor in Clinical Medicine, Boston University School of Medicine. His subject is: "Dr. Charles Dickens." Page 1082. Address: 520 Commonwealth Avenue, Boston.

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SIR HANS SLOANE

1660-1753

FROM small beginnings have been derived many institutions which it is probable were never in the mind of the originator. From the habit of collecting natural history specimens for his own gratification and information there developed one of the greatest of the world's collections, not only of natural history but of every sort of thing having any human interest. Hans Sloane through whose benefaction the British Museum was founded was of Scottish extraction, his father, Alexander Sloane, being the tax collector for a colonization scheme for Northern Ireland which was set in motion by King James the First. He was born in Killileagh, April 16, 1660. His early interest in Natural History led his father to encourage him in its study and for several years, prior to his sixteenth, he applied himself vigorously to this subject. At about the time he was sixteen years of age he had a pulmonary haemorrhage and was obliged to devote himself to the task of getting well during the succeeding three years. As a result of this experience and the interest which natural history studies had developed in him, he found himself turning strongly to medicine and as he became well recovered from his illness he turned his attention to the study of this profession going up to London where he enrolled under Stafforth in Chemistry, took his Botany in Chelsea and his lectures on Anatomy and Physic in London. He was graduated with an M.D. degree from the University of Orange in July 1683 and given the same degree from Oxford in July 1701. Through his paramount interest he was brought into frequent contacts with Mr. Boyle and Mr. Ray, two of the most distinguished naturalists of their day. After four years of intensive study in London, he resolved upon a foreign tour which he undertook in 1683. He occupied his time in Paris attending at the Hospitals, becoming acquainted with the distinguished men of the time who were teaching anatomy and botany and through them establishing contacts that were of great assistance to him in adding to his collections. It was during this visitation in foreign lands that he made the acquaintance of Courten, Pierre Magnal and Tournefort, distinguished botanists and lifelong friends. From Paris he went to Montpellier where he spent an entire year collecting botanical specimens. Returning to London in 1684 he soon became acquainted with Sydenham who showed him every courtesy and recommended him highly to his patients. Because of his interest in Botany and the many valuable specimens which he collected and brought back to England, he was elected in 1685 to the Royal Society before which he made numerous communi-

cations from time to time. In 1687 he became a Fellow of the College of Physicians in London. This same year he went out with the Duke of Albemarle when he accepted the Governorship of Jamaica. He remained in Jamaica 15 months and added very materially to his collection of botanical specimens. Upon his return to London he definitely settled down to the practice of his profession. His abilities received early recognition in an appointment to Christ's Hospital where he served from 1694 to 1730. Upon his selection as Secretary of the Royal Society he proceeded to revive the publication of their Philosophical Transactions which had been allowed to lapse. His wide knowledge of plants enabled him to make many valuable contributions to Materia Medica. He was instrumental as an original subscriber, in establishing the Dispensatory of the College of Physicians where the poor could be provided with drugs at their initial cost.

His collections received very great additions from William Courten whose death was the occasion of his bequeathing all of his treasures to Hans Sloane. He was elected as foreign member of the Royal Academy in Paris in 1708. He was the first English physician to be made a Baronet. This was done during the reign of King George the First. It was at this time also that he was appointed Physician General to the Army and in George the Second's reign he was physician to the King and the Royal family. For the sixteen years succeeding 1799 he was President of the College of Physicians. Upon the death of Sir Isaac Newton, Sir Hans became President of the Royal Society which was the major honor that could come to a British Scientist. From the time that he became President he devoted most of his energy to the interests of the Society retiring from active service in 1740 when he was 80 years of age. The last 20 years of his life was spent at his home in Chelsea where he had presented the Company of Apothecaries a botanical garden. His entire collection augmented by that of his friend Courten and the Cottonian collection and Harleian manuscripts formed the basis of the gift to the British Museum. He was very liberal in his benefactions just as he had always been with his time, never denying himself to people of whatever class. He had been on the governing board of nearly every hospital in London. He was desirous that his vast collections of natural history specimens and the 50,000 volumes gathered in his Library should be of benefit to the Public after his death. He also recognized his obligations to his family and so it came about that through an Act of Parliament, passed in 1753, a lottery was authorized for the purpose of providing 20,000£ to reimburse his estate for its expense and provide a sufficient sum in addition to house the collection, and properly care for it. The sum of 300,000£ was raised and the provisions of the will and the parliamentary enactment were carried out. The Museum was opened to the public in 1759. The Sloane manuscripts include letters and notes by most of the chief physicians of the century preceding Sloane's death and contain much that is of value in Medical History in England between the time of Charles the First and George the Second. He presented a considerable number of his books to the Bodleian Library. His own publications were few—only one upon any medical subject, viz.: "An account of a medicine for Soreness, Weakness and other Distempers of the Eyes", 1745. His publication in 1707, of the first of his two volume natural history, "A Voyage to the Islands of Madera, Barbadoes, Neives, St. Christopher and Jamaica with the Natural History of the Last", won for him an international reputation and led to his election to the French Academy of Sciences, the Imperial Academy of St. Petersburg and the Royal Academy of Madrid.

He was married, in 1695, to the daughter of a London alderman and widow of Fulk Ross of Jamaica. They had one son, who died in infancy and three daughters. One of the daughters married a Cadogan, who later became a Baron, and Sloane's name through this connection is commemorated in London in the names of Sloane Place, Sloane Square, Hans Place and Hans Road. There is also a statue of him erected in Chelsea by the Apothecaries Company. He died after a brief illness, on January 11, 1753. His greatest claim to the reverence of posterity has been the part he played in originating one of the world's largest repositories of knowledge.

MISCELLANY

THE NATIONAL COMMITTEE FOR MENTAL HYGIENE

The development of a nation-wide program of research in coöperation with American Universities as a next step in the extension of the activities of the National Committee for Mental Hygiene was announced as a major objective for the near future at a luncheon held recently in New York in celebration of the Committee's twenty-first anniversary.

Dr. C. M. Hincks, founder and Medical Director of the Canadian National Committee for Mental Hygiene and a Vice-President of the International Committee for Mental Hygiene, was introduced as the new General Director of the organization, succeeding Dr. Frankwood E. Williams, who will retire on January 1 after fourteen years of service.

Dr. Hincks, in his address, gave an imaginary General Director's report as it might appear in 1950. Dr. Charles P. Emerson, President of the National Committee for Mental Hygiene, surveyed the National Committee in retrospect and outlined some of the accomplishments of the mental hygiene movement after

two decades of work. To it he attributed a better understanding on the part of the public of the problem of insanity, better care and training for the feeble-minded, and a demonstration of the salvation of the problem child.

The meeting was attended by between five and six hundred psychiatrists, psychologists, physicians, educators, social workers, nurses, and others in professional or business life in various parts of the country.

At the business meeting immediately following the luncheon the following officers were re-elected: *Honorary President*, Dr. William H. Welch; *President*, Dr. Charles P. Emerson; *Vice-Presidents*, President James R. Angell, Rt. Rev. William Lawrence, D.D., Dr. William L. Russell, and Dr. Bernard Sachs; *Treasurer*, Mr. Frederic W. Allen; *Secretary*, Mr. Clifford W. Beers.

MATERNAL MORTALITY IN THE REGISTRATION AREA: 1929

Washington, D. C., October 29, 1930.—The Department of Commerce announces that for the birth registration area the mortality from puerperal causes (7.0 per 1,000 live births) in 1929 was only five-tenths higher than the rate (6.5) for 1927, the last year for which the summary was published. Puerperal septicemia was affected even less, the rate for 1927 having been 2.5, as compared with 2.6 in 1929, and the rate for "other puerperal causes" was lowered to 0.3 in 1929. These maternal rates are based on the number of deaths among women 15 to 45 years of age per 1,000 live births.

Confining the discussion to only three groups, namely, "all puerperal causes", "puerperal septicemia", and "other puerperal causes", it will be noted that of the 46 states for which data are available for 1929, South Carolina had the highest mortality rate (11.4), with Alabama and Louisiana next in order (each 9.9), Florida (9.5) and Georgia (9.3). It must be borne in mind, however, that all the states with excessively high rates have large proportions of colored populations. Singularly, the states with high rates from "puerperal septicemia" are Montana (4.2), Colorado (4.0), New Mexico (3.9), and Arizona (3.8), all with vast rural areas sparsely settled, where hospital facilities and skilled medical care are difficult to procure.

"Accidents of pregnancy" had a rate of only 0.7 for the entire registration area, "puerperal hemorrhage and other accidents of labor", a rate of 1.6, and "puerperal albuminuria and convulsions", 1.8, while the rates in the states for the three causes, respectively, were highest for Vermont (1.3), Delaware (3.0), and South Carolina (4.7). Heretofore the total deaths from these three causes have been under "other puerperal causes".

Death rates per 1,000 live births from puerperal septicemia in the New England states are as follows:

	Number						Rate per 1,000 live births					
Area	The puerperal state	Accidents of pregnancy	Puerperal hemorrhage and other accidents of labor	Puerperal septicemia	Puerperal albuminuria and convulsions	Other puerperal causes	The puerperal state	Accidents of pregnancy	Puerperal hemorrhage and other accidents of labor	Puerperal septicemia	Puerperal albuminuria and convulsions	Other puerperal causes
Connecticut	148	17	38	52	27	14	5.4	0.6	1.4	1.9	1.0	0.5
Maine	115	18	30	34	27	6	7.2	1.1	1.9	2.1	1.7	0.4
Massachusetts	499	55	140	179	90	35	6.7	0.7	1.9	2.4	1.2	0.5
New Hampshire	61	10	10	13	21	7	7.5	1.2	1.2	1.6	2.6	0.9
Rhode Island	97	11	17	43	18	8	7.9	0.9	1.4	3.5	1.5	0.7
Vermont	52	9	8	17	14	4	7.7	1.3	1.2	2.5	2.1	0.6

SOME FACTS ABOUT THE ADAMS NERVINE

Among the official members of the visiting committee for the Adams Nervine for the month of November are Mr. Henry Parkman, Jr., Mr. George S. Weld, Mr. Andrew J. Peters, and Mr. Arthur W. Rice. The committee also includes Miss Lillian J. Payson, Miss Corrine Wallis, Mrs. Orville R. Chadwell, and Miss Theresa C. Wallis. Many prominent men and women call at this institution each month because of their interest in the work that is being accomplished.

The Adams Nervine is located in Jamaica Plain. It was founded more than fifty years ago by Mr. Seth Adams of Newton, who left an endowment in his will to establish an institution for the care of persons suffering from nervous trouble. No insane cases are accepted in the home. Originally the Adams Nervine included both men and women, but as nervous diseases are rare among men, it seemed best to give up the men's house and limit the admission to women.

The Nervine receives from 150 to 170 patients annually. They remain on an average of twelve weeks, and it has been learned from reports that most of the women admitted are housewives, who stay at home, and have no occupation or interest in outside affairs.

While they are patients at the Nervine they are

under the instruction of the teacher of arts and handicraft. The equipment includes looms of different sizes, among them an old-fashioned Dutch loom which was purchased in Pennsylvania and used for rug weaving. The patients are instructed to weave rugs, bureau scarfs, neck scarfs, and bedspreads. This sort of work, woven in lovely combinations of colors, is excellent for certain cases of nervous depression. When one is learning an unfamiliar type of work, her mind is absorbed wholly, and she forgets herself and her trouble. There is also a gymnasium, fully equipped, which physicians have found to be of great help in treating certain of the cases.

The location of the Adams Nervine, adjoining the Arnold Arboretum, often makes possible a serious study of the wonderful collection of trees and shrubs, which study is of great interest to many of the patients.

One quarter of the care given at the Nervine is without charge, yet those receiving this generosity have the same accommodations and privileges as those paying the full price.

For those interested in learning of the further activities of the Adams Nervine, information may be obtained by applying to the Adams Nervine, 990 Center Street, Jamaica Plain.

COMPARISON OF DISEASE INCIDENCE IN CONNECTICUT WITH 1929 AND SEVEN-YEAR AVERAGE

MONTH ENDING NOVEMBER 15, 1930

Diseases	1930 Week ending Oct. 25	1930 Week ending Nov. 1	1930 Week ending Nov. 8	1930 Week ending Nov. 15	Average cases reported for week corresponding to Nov. 15 for past seven years	1929 Week ending Oct. 26	1929 Week ending Nov. 2	1929 Week ending Nov. 9	1929 Week ending Nov. 16
Cerebrospinal Men.	—	—	3	1	—	1	1	3	—
Chickenpox	2	30	89	73	98	82	104	145	151
Conjunctivitis Inf.	2	—	—	—	—	—	—	—	—
Diphtheria	7	17	6	9	43	24	19	19	28
Dysentery Bacillary	—	1	—	—	—	—	1	—	—
Encephalitis Epid.	—	1	2	1	—	—	2	—	1
German Measles	2	2	1	3	2	2	1	2	3
Influenza	1	3	7	1	4	3	5	1	6
Measles	13	47	55	67	47	2	2	3	2
Mumps	10	18	19	29	21	12	55	16	19
Paratyphoid Fever	—	—	—	—	—	—	1	—	4
Pneumonia (Broncho)*	12	17	18	16	19	21	16	22	13
Pneumonia (Lobar)	12	21	24	19	28	25	20	26	15
Poliomyelitis	3	4	2	2	2	1	—	1	1
Scarlet Fever	16	18	32	38	58	33	36	37	52
Septic Sore Throat	2	1	3	1	3	1	—	1	3
Tetanus	1	—	—	—	—	—	—	—	—
Trichinosis	—	—	—	1	—	—	—	—	—
Tuberculosis (Pul.)	24	19	32	38	26	31	24	15	16
Tuberculosis (O. F.)	2	2	1	3	2	5	1	1	2
Typhoid Fever	7	2	9	3	3	3	—	3	2
Typhus Fever	—	—	—	—	—	—	1	—	—
Undulant Fever†	—	—	1	—	—	—	1	—	1
Whooping Cough	17	42	59	43	58	36	27	27	19
Gonorrhoea	54	30	29	30	32	33	28	46	19
Syphilis	38	52	42	31	32	28	56	84	35

Remarks: No cases of Asiatic cholera, glanders, plague and yellow fever during the past seven years.

*Made reportable January 1, 1925.
†Made reportable July 1, 1928.

DR. A. WARREN STEARNS' RECEPTION

On Sunday afternoon, November 16, Dr. A. Warren Stearns, Dean of the Tufts College Medical School, entertained a large number of medical students of the third year class of the medical school. The meeting, under the designation of a smoker, was held at Dean Stearns' historical colonial home in Billerica.

This event marked the first meeting of the undergraduate students and the Dean of the Medical School in an informal manner. The affair was an attempt on the part of the Dean to obtain a better contact with the student body, so that many of the problems of both the students and faculty could be presented and discussed. It was a particularly interesting affair for the students as it gave them a rare opportunity to ask questions and discuss situations and problems that are considered to be of importance to the undergraduates, alumni, faculty, or medical school. The purpose of the affair was fulfilled, as both the Dean and students were brought into closer relation with each other.

An interesting feature was the reading of some old letters and prescriptions taken from the records of Dr. Joseph Foster of Billerica, and the distinguished Dr. Warren of Boston. Incidentally one prescription was a specific for cancer. It was a herb and bark preparation which contained a pint of brandy,—(as did most all the prescriptions of the early eighteenth century).

Following the general discussion by the group, and the reading of early nineteenth century letters pertaining to the practice of medicine, a light lunch was served by Mrs. Stearns, assisted by Miss Waugh, secretary to the Dean. This was followed by music and group singing.

It is expected that another group of undergraduates will visit Dean Stearns' home in the very near future.

ENDORSEMENTS OF THE PLANS FOR EXTENSION OF THE SERVICE OF THE GOOD SAMARITAN HOSPITAL

The New England Heart Association, the presidents of the American Heart Association and the American Medical Association and two score eminent physicians here and in Great Britain are solidly behind the efforts of the House of the Good Samaritan to seek a prevention and cure for rheumatic heart disease. Alan Cunningham, president, of the board of managers of the hospital, recently made their comments public regarding the $500,000 campaign for research on this malady.

A letter he received from Dr. Paul D. White, president of the New England Heart Association, expressing approval of the hospital's plans, says in part: "For years this hospital has stood for the soundest and most progressive methods of study and treatment of children with heart disease, and now gives promise not only of maintaining traditions of the past but of becoming an important leader and pioneer in this country in the near future. Thus the New England Heart Association is anxious to go on record as a friend and supporter, particularly in the present campaign to raise a fund for the advancement of research in the prevention and treatment of heart disease in childhood."

Among the number of letters from well-known authorities in various parts of this country and England, all agreeing that the Good Samaritan Hospital is the logical center for this much-needed study of an unconquered disease, are endorsements from such doctors in Boston as Dr. Kenneth D. Blackfan and Dr. Paul W. Emerson, both of the Harvard Medical School and on the staff of the Children's Hospital; Dr. Richard C. Cabot, Dr. Hans Zinsser and Dr. Samuel A. Levine, of the Medical School, Dr. William H. Robey, of the Boston City Hospital and president of the American Heart Association.

"As I see it," Dr. Blackfan wrote, "there are two major aspects to the problem which faces the community. One, to increase the facilities for the care of children already afflicted. I wonder if you know that during the winter and spring months of 1930 over one-third of the patients applying for aid in this clinic were suffering from rheumatic fever.

"The other need is to bend every effort to secure a means of preventing this handicapping disease. This can be done only through study and investigation. This forward step which the House of the Good Samaritan is taking deserves the support not only of the friends and supporters of the hospital, but of everyone interested in the betterment of the health of little children."

Dr. Cabot says: "There is a new reason why the Good Samaritan should make a new appeal to the charity of the people of Boston. That new reason is the fact that heart disease has only recently become the most important cause of death, standing now first upon the list, whereas not many years ago it was fourth or fifth. Rheumatic heart disease in children, with which the hospital is especially concerned, offers one of the most important prospects for progress and research, to the end that the damage now done by the disease may be curtailed.

"The men in charge of this work at this hospital are admirably fitted by their training and by their ideals to carry out these important purposes. In supporting this hospital the community will be benefiting itself at a very vital point."

Dr. Levine adds: "I am more than ordinarily interested for I have been following heart problems for years. You are making a serious attempt to throw light and to discover new methods either as treatment or prevention of a condition the magnitude and importance of which is second to none.

"It is necessary to be able to observe these patients for long periods of time. Most of our hospitals, because of the pressure for available beds, have been unable to house patients and observe them for more than a short period of time. The House of the Good Samaritan plans to undertake seriously this most

difficult problem in the only way that it can be seriously studied."

And Dr. Robey adds: "For years I have regarded the work of the House of the Good Samaritan as one of the most important in Boston. Your opportunities for research in rheumatic fever and its resulting cardiac lesions are unsurpassed, and any help that can be given the hospital to carry on such investigation can meet only with the highest approval."

Dr. Robey and Bishop Sherrill will speak at the next campaign luncheon, Tuesday, December 2, in Perkins Hall, Women's Educational and Industrial Union, 264 Boylston Street, Boston.

In other sections the following American physicians have sent in equally strong letters: Dr. T. Homer Coffen, University of Oregon Medical School; Dr. Haven Emerson, Columbia University College of Physicians and Surgeons; Dr. Morris Fishbein, editor, *Journal of the American Medical Association;* Dr. James B. Herrick, emeritus professor of medicine, Rush Medical College; Dr. Hugh McCulloch, Washington University School of Medicine; Dr. Homer F. Swift, Hospital of the Rockefeller Institute of Medical Research and Dr. W. S. Thayer, past president, American Medical Association.

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TUBERCULOSIS ABSTRACTS

By The National Tuberculosis Association

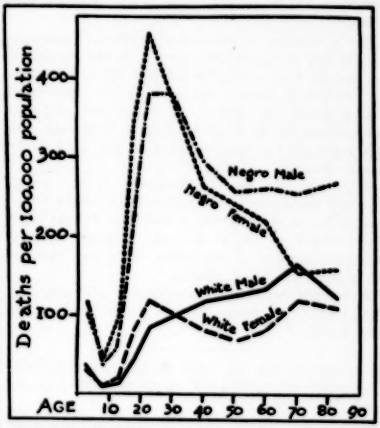
In slavery days, tuberculosis is said to have been uncommon in the Negro. When he was suddenly freed and thrown on his own resources, deaths from that cause rose steadily. The disease is now about three times as prevalent among Negroes of the United States as among whites. Moreover, the pathology and the course of the disease in the two races are strikingly different. Does the Negro suffer an inherited susceptibility? Has his contact with civilization been too brief to develop the immunity which seems to protect the white race more adequately? Will the handicaps of environment imposed upon the Negro account for the increased prevalence and severity of the disease? Serious searches for satisfying answers are just beginning to be made.

TUBERCULOSIS AMONG NEGROES

Knowledge of the peculiar character of tuberculosis in the Negro that explains the appalling mortality is defective. Statements concerning the clinical course of tuberculosis in colored people are vague. The suggestion is repeatedly made that there are conspicuous differences between the pathological changes produced by tuberculosis in the American Negro and white people. This conclusion is not warranted by the meager facts at hand. Almost nothing is known about the morbidity of the disease among the colored population or concerning the prevalence of minor but not infrequently grave infections which are the precursors of fatal disease.

STATISTICAL DATA IN THE UNITED STATES

Among whites, the death rate for all ages is greater for men than for women, while among Negroes the rate is somewhat higher for women. The disease attacks Negro children with far greater severity than white, the ratio of deaths for the



Tuberculosis Mortality 1925, U. S. Death Reg. Area of 1920. —Proceedings N. T. A., 1930, p. 264, Edgar Sydenstricker.

two races between birth and fifteen years of age being 1:9.2, but from fifteen up to twenty-five, 1:3.9. The death rate has fallen rapidly in both races since 1911 but somewhat less for colored than for white. The mortality graph for Negroes is that of a disease that begins in adolescence or early adult life and pursues a rapidly fatal course.

TUBERCULOSIS IN AFRICA

The interior of Africa was free from tuberculosis before the advent of the white explorer. Sorel, among others, gives us a glimpse of how the disease was spread. At Bassam on the Ivory Coast, 22.9 per cent. of the inhabitants reacted to tuberculin, whereas at Bornake, 212 miles inland, only 2 per cent. reacted. Ziemann found that, among the 80 natives of the highlands adjacent to Bantu, only

one reacted to tuberculin and this man had served as a soldier on the coast. Borrel studied French African troops during the World War. Of recently recruited men brought directly from Senegal to the Frejus Camp, only 4 or 5 per cent. reacted to tuberculin. The incidence of tuberculosis increased steadily although earnest effort was made to combat the disease, and the deaths increased from 48 in 1916 to 557 in 1918. The death rate estimated per 100,000 was 624 in 1917 and 1,114 in 1918.

TUBERCULOSIS IN JAMAICA

Jamaica has a population of about 800,000 Negroes and 15,000 whites. Both races have been in contact for three centuries. The disease is primarily one of cities and spreads to country districts. Dwellings are crowded, and the poorer people are careless in their habits. In the native Jamaican, tuberculosis usually pursues a rapidly fatal course. While the disease in Jamaica spreads rapidly, its short course doubtless retards its spread.

A relatively small number of autopsies performed on those who have died from tuberculosis in Jamaica show that, whereas the chronic type of pulmonary tuberculosis familiar in white people does occur in the native Jamaican, the disease much more frequently resembles that of children in this country. It has the familiar characters of a first infection, arising in some part of the lung other than the apex and producing massive enlargement and caseation of the adjacent tracheobronchial lymph nodes. The lungs and lymph nodes contain no healing or healed (calcified) scars of a preceding infection. Death may follow general dissemination throughout the body. Instances of chronic pulmonary tuberculosis identical with that of white adults in this country occur in Jamaica, but even when the disease is most advanced in the apex, it often has characters intermediate between those of the childhood and adult types of this country, for massive caseous pneumonia is a conspicuous feature of the lesion and there is some caseation of the lymph nodes about the bronchi.

It appears, therefore, that tuberculosis in the American Negro in certain respects is intermediate between that of the native Jamaican and that of white people in the United States.

HEREDITY AND ENVIRONMENT

Discussions concerning the relative importance of heredity and environment as factors of tuberculosis are unprofitable. Environment determines the conditions under which the invading microörganism enters the body, and inherited susceptibility will determine the varying course of the disease under various conditions of infection. Specific immunity acquired as the result of infection may modify inherited susceptibility. The circumstances under which human infection with tuberculosis occurs are so complex and imperfectly understood that it is doubtful if we have any information that can be used to determine in what degree heredity influences the susceptibility of the Negro race to the disease.

The present information does not show that the Negro race has any hereditary susceptibility to the disease, but this possibility cannot be excluded. Poverty and unfavorable environment certainly favor the spread of the disease. The pathological anatomy of tuberculosis in colored people of the United States indicates that they escape infection during childhood more frequently than the whites and then die from a form of tuberculosis that has all the severity of a first infection. Contagion within the household is the important factor. It is a problem of preventing massive infection.—*The Epidemiology of Tuberculosis of Negroes, Eugene L. Opie, Jour. of the Outdoor Life, Sept., 1930.*

STUDIES IN TENNESSEE

In 1927, the death rate from tuberculosis in Tennessee was 96 per 100,000 population for whites and 252 for Negroes. The Tennessee Department of Health is engaged in a special study involving the racial distribution of tuberculosis. Dr. Eugene L. Bishop, Commissioner, who is aided by specialists versed in epidemiology, pathology, and sociology, summarizes some of the impressions derived from the study thus far:

1. There are definite differences in Tennessee between the white and colored races with regard to the total tuberculosis mortality rate, and in the rate by age groups. The difference in mortality rates is most marked in the years of infancy, childhood and adolescence.

2. Evidence is accumulating that similar differences exist in the racial distribution of tuberculosis infection. Results from an admittedly small group of tuberculin tested children suggests the possibility of a higher contact rate among contacts in the colored than in the white race.

3. The clinical type of the disease observed is different in the two races. The chronic fibroid type of tuberculosis is rare, but not unknown in the colored race.

4. Generally speaking, Negroes present themselves for examination, and begin treatment, in a more advanced stage of the disease.

5. Negroes are less able and less apt to adopt measures calculated to prevent the spread of the disease to other persons.

6. Negroes with tuberculosis are a source of infection not only to members of their own families, and associates, but also under certain conditions to members of the white race.—*Dangers of the Tubercle Bacilli Carrier, Eugene L. Bishop, Jour. of the Outdoor Life, Sept., 1930.*

The Massachusetts Medical Society

THE COMMITTEE ON PUBLIC EDUCATION OF THE MASSACHUSETTS MEDICAL SOCIETY

November 22, 1930.

Editor, *New England Journal of Medicine.*

Dear Sir:

In accordance with the terms of the following vote of the Council, October 1, 1930, the President has ap-

difficult problem in the only way that it can be seriously studied."

And Dr. Robey adds: "For years I have regarded the work of the House of the Good Samaritan as one of the most important in Boston. Your opportunities for research in rheumatic fever and its resulting cardiac lesions are unsurpassed, and any help that can be given the hospital to carry on such investigation can meet only with the highest approval."

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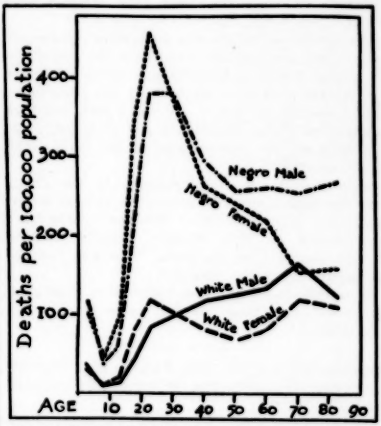
Among whites, the death rate for all ages is greater for men than for women, while among Negroes the rate is somewhat higher for women. The disease attacks Negro children with far greater severity than white, the ratio of deaths for the



Tuberculosis Mortality 1925, U. S. Death Reg. Area of 1920. —Proceedings N. T. A., 1930, p. 264, Edgar Sydenstricker.

two races between birth and fifteen years of age being 1:9.2, but from fifteen up to twenty-five, 1:3.9. The death rate has fallen rapidly in both races since 1911 but somewhat less for colored than for white. The mortality graph for Negroes is that of a disease that begins in adolescence or early adult life and pursues a rapidly fatal course.

TUBERCULOSIS IN AFRICA

The interior of Africa was free from tuberculosis before the advent of the white explorer. Sorel, among others, gives us a glimpse of how the disease was spread. At Bassam on the Ivory Coast, 22.9 per cent. of the inhabitants reacted to tuberculin, whereas at Bornake, 212 miles inland, only 2 per cent. reacted. Ziemann found that, among the 80 natives of the highlands adjacent to Bantu, only

one reacted to tuberculin and this man had served as a soldier on the coast. Borrel studied French African troops during the World War. Of recently recruited men brought directly from Senegal to the Frejus Camp, only 4 or 5 per cent. reacted to tuberculin. The incidence of tuberculosis increased steadily although earnest effort was made to combat the disease, and the deaths increased from 48 in 1916 to 557 in 1918. The death rate estimated per 100,000 was 624 in 1917 and 1,114 in 1918.

TUBERCULOSIS IN JAMAICA

Jamaica has a population of about 800,000 Negroes and 15,000 whites. Both races have been in contact for three centuries. The disease is primarily one of cities and spreads to country districts. Dwellings are crowded, and the poorer people are careless in their habits. In the native Jamaican, tuberculosis usually pursues a rapidly fatal course. While the disease in Jamaica spreads rapidly, its short course doubtless retards its spread.

A relatively small number of autopsies performed on those who have died from tuberculosis in Jamaica show that, whereas the chronic type of pulmonary tuberculosis familiar in white people does occur in the native Jamaican, the disease much more frequently resembles that of children in this country. It has the familiar characters of a first infection, arising in some part of the lung other than the apex and producing massive enlargement and caseation of the adjacent tracheobronchial lymph nodes. The lungs and lymph nodes contain no healing or healed (calcified) scars of a preceding infection. Death may follow general dissemination throughout the body. Instances of chronic pulmonary tuberculosis identical with that of white adults in this country occur in Jamaica, but even when the disease is most advanced in the apex, it often has characters intermediate between those of the childhood and adult types of this country, for massive caseous pneumonia is a conspicuous feature of the lesion and there is some caseation of the lymph nodes about the bronchi.

It appears, therefore, that tuberculosis in the American Negro in certain respects is intermediate between that of the native Jamaican and that of white people in the United States.

HEREDITY AND ENVIRONMENT

Discussions concerning the relative importance of heredity and environment as factors of tuberculosis are unprofitable. Environment determines the conditions under which the invading microörganism enters the body, and inherited susceptibility will determine the varying course of the disease under various conditions of infection. Specific immunity acquired as the result of infection may modify inherited susceptibility. The circumstances under which human infection with tuberculosis occurs are so complex and imperfectly understood that it is doubtful if we have any information that can be used to determine in what degree heredity influences the susceptibility of the Negro race to the disease.

The present information does not show that the Negro race has any hereditary susceptibility to the disease, but this possibility cannot be excluded. Poverty and unfavorable environment certainly favor the spread of the disease. The pathological anatomy of tuberculosis in colored people of the United States indicates that they escape infection during childhood more frequently than the whites and then die from a form of tuberculosis that has all the severity of a first infection. Contagion within the household is the important factor. It is a problem of preventing massive infection.—*The Epidemiology of Tuberculosis of Negroes, Eugene L. Opie, Jour. of the Outdoor Life, Sept., 1930.*

STUDIES IN TENNESSEE

In 1927, the death rate from tuberculosis in Tennessee was 96 per 100,000 population for whites and 252 for Negroes. The Tennessee Department of Health is engaged in a special study involving the racial distribution of tuberculosis. Dr. Eugene L. Bishop, Commissioner, who is aided by specialists versed in epidemiology, pathology, and sociology, summarizes some of the impressions derived from the study thus far:

1. There are definite differences in Tennessee between the white and colored races with regard to the total tuberculosis mortality rate, and in the rate by age groups. The difference in mortality rates is most marked in the years of infancy, childhood and adolescence.

2. Evidence is accumulating that similar differences exist in the racial distribution of tuberculosis infection. Results from an admittedly small group of tuberculin tested children suggests the possibility of a higher contact rate among contacts in the colored than in the white race.

3. The clinical type of the disease observed is different in the two races. The chronic fibroid type of tuberculosis is rare, but not unknown in the colored race.

4. Generally speaking, Negroes present themselves for examination, and begin treatment, in a more advanced stage of the disease.

5. Negroes are less able and less apt to adopt measures calculated to prevent the spread of the disease to other persons.

6. Negroes with tuberculosis are a source of infection not only to members of their own families, and associates, but also under certain conditions to members of the white race.—*Dangers of the Tubercle Bacilli Carrier, Eugene L. Bishop, Jour. of the Outdoor Life, Sept., 1930.*

The Massachusetts Medical Society

THE COMMITTEE ON PUBLIC EDUCATION OF THE MASSACHUSETTS MEDICAL SOCIETY

November 22, 1930.

Editor, *New England Journal of Medicine.*

Dear Sir:

In accordance with the terms of the following vote of the Council, October 1, 1930, the President has ap-

pointed this committee on Public Education, a sub-committee of the Standing Committee on Public Health:

J. B. Ayer, J. D. Barney, F. J. Cotton, G. S. Derby, F. C. Irving, E. P. Joslin, G. R. Minot, H. P. Mosher, F. R. Ober, R. B. Osgood, E. H. Place, J. H. Pratt, W. H. Robey, C. C. Simmons, R. M. Smith, H. W. Stevens.

Voted, That a Committee on Public Education be appointed by the President as a sub-committee of the standing Committee on Public Health, to procure the preparation of material for the public, the daily press and for radio broadcasts on medical subjects, and to assume responsibility therefore in the name of the Massachusetts Medical Society.

Yours truly,

W. L. BURRAGE, *Secretary*.

A REPORT ON THE GEORGE J. OTT CASE, BY THE COMMITTEE ON ETHICS AND DISCIPLINE

November 18, 1930.

To the Editor,
New England Journal of Medicine,
165 Newbury Street,
Boston, Mass.
Sir:

In the interests of justice and in fairness to Dr. George J. Ott, a Fellow of the Massachusetts Medical Society for thirty-six years, the Committee on Ethics and Discipline feels that the widest publicity should be given to the fact that he has been exonerated of the charges against him and restored to the right to practice medicine. It will be recalled that on April 10, 1930, his license to practice was revoked by the Board of Registration in Medicine; that Dr. Ott appealed this sentence to the Supreme Court of Massachusetts; and, by authority of the Council of the Massachusetts Medical Society, the Committee on Ethics and Discipline, who felt convinced that an unfortunate miscarriage of justice had occurred, appeared in his behalf. The case has just been heard and the findings reported by Justice William C. Wait of the Supreme Judicial Court on November 3 are as follows:

> "I refuse the requests of the Defendants for rulings. I find that the petitioner was not given the full, fair and impartial hearing to which by law he was entitled; that the decision of the Board was based upon testimony of an unreliable employee of the State Police who planned to entrap the petitioner into consenting to perform an illegal operation upon her by untrue representations in regard to her physical condition, testimony which the petitioner was given no reasonable opportunity to meet before the Board, and which I find, after hearing, was wilfully false; that no other evidence justifies the finding of the Board; and that the decision of the Board was clearly wrong.
>
> I order that a decree be entered reversing the decision of the Board."

Moreover when the Attorney-General's office, acting on behalf of the Board of Registration, entered an appeal from this decision, Judge Wait handed down a final decree to the effect that this appeal should have no effect on his decision "unless and until this decision should be reversed". In accordance with this decree, Dr. Ott's license to practice has been restored by the Board of Registration and after facing ruin and disgrace for seven months he is now, having been fully exonerated by the highest tribunal, trying to pick up the scattered threads of his practice.

Inasmuch as the editorial pages of the *Journal* are probably most widely read, we trust that you will there call brief attention to this statement.

Respectfully yours,

WARREN D. RUSTON,
SYLVESTER F. MCKEEN,
ALFRED C. SMITH,
ROBERT L. DENORMANDIE,
DAVID CHEEVER, *Chairman*,
Committee on Ethics and Discipline,
Massachusetts Medical Society.

A LETTER FROM DR. WATERHOUSE ON KINE POX

November 20, 1930.

Editor, *New England Journal of Medicine*,
Dear Sir:

The inclosed original letter, dated 1801, from Benjamin Waterhouse to Isaac Rand, at that time President of the Massachusetts Medical Society, has come to light during the sorting and inspection of the letters of the society that have been preserved in the vault at the Boston Medical Library, by the committee appointed for that purpose by the Council last June. It was written in the year following Waterhouse's vaccination of his five-year-old son, Daniel O. Waterhouse, with vaccine virus received from England. We feel sure that your readers will be glad to see this letter from the "Jenner of America," as William H. Welch called him, and his views about kine pox.

Sincerely yours,

WALTER L. BURRAGE,
Chairman of the Committee.

Cambridge 14th April 1801.

Dear Dr.

Since I wrote to you, it has occurred to me to say something to you respecting the popular name of the *Variola Vaccina* in this country. Finding that many especially the Ladies had an aversion from the name of *Cow*-pox, I cast about in my own mind to find another as expressive and yet more delicate, when I thought of substituting that of "*Kine*," and in a conversation with Mr. Theophilus Parsons I became fixed in it, and the name is become universal here. *President Adams*, for example and since him, *President Jefferson* in their letters to me call it the *Kine* pox, and so do most all of my english correspondents since my pamphlet has appeared in England. Now, in England they have called it for time immemorial *Cow-pox*, and it will always retain it. In France it is called *la Vaccine*, and at Vienna and Geneva *Vac-*

cina, and in the United States *Kine pox*, and were a frenchman or german to write an history of the inoculation, he would doubtless say it was called in the United States, the *Kine pox*.

Why then should we not use the same term universally here? For while one calls it the *Cow*-pox and another the *Kine* pox it carries an affect of discordance which does not exist. Hearing yesterday that you were about calling a meeting of the Society respecting this new inoculation I thought I would just throw out these hints for your consideration and am Dear Sir with great esteem

Your friend and humble servt

BENJAMIN WATERHOUSE.

Isaac Rand, M.D.

CORRESPONDENCE

A DISCUSSION OF THE PROBLEMS WITH RESPECT TO MEDICAL PRACTICE IN CLINICS

New England Journal of Medicine, Boston, Mass.:

I read with a great deal of interest Mr. F. E. Wing's article on Pay Clinics. The article is of more than passing interest and concerns the whole problem of the practice of medicine. A few random questions came to the writer's mind, which I would like to express in your columns.

Is the Pay Clinic really a self-supporting enterprise, as Mr. Wing wants us to believe?

Any private business is considered self-supporting, when the revenue derived from the undertaking covers all the expenses connected with its operation, i.e., investments, equipment, overhead, etc.

Is it so in the case of the Pay Clinic?

It seems from Mr. Wing's paper, that the revenue derived from the patient's fees covers only the expense directly connected with the actual running of the clinic. It does not take into consideration the investment in buildings, equipment and endowments, exemptions from taxes and general executive expenses of the Dispensary. The Pay Clinic as a part of the institution is undoubtedly a beneficiary of all these items, and they certainly should be taken into consideration, when speaking about the clinic being self-supporting.

Now as to the physicians' fees; Mr. Wing tells us that the physicians in charge, whose average pay per office visit is at least $3-$5, receive about $5.00 per clinic session. I take it that every physician sees at least six patients during a session. This would bring his fee down to much below the most poorly paid general practitioner working among the poorest patients. The physician in the "Pay Clinic" gives his service partly free for the same reasons, that his brother gives it totally free in the general O.P.D. clinic.

Let us then not deceive ourselves in thinking, that the pay clinics are self-supporting. They are essentially the same out patient clinics, the difference being, that the patient contributes a somewhat larger share toward their maintenance.

Now as to the clientele.

The maximum of $35.00 for a single man and $50.00 for a family man, which is the standard of the patient's admissibility to the "Pay Clinic," also holds good in the general O.P.D. clinics of the city. Furthermore, every one familiar with the situation knows, how difficult it is for the admitting clerk to verify the patient's income. In practice the patients of the pay clinic are recruited from the same strata of society as those in the "charity" clinic. It is left entirely to the patient himself to select the type of clinic which suits his convenience and desires.

In short, the pay clinic as well as the "Charity Clinic" is an institution, whose aim is to give medical service to a section of the population with an earning capacity below $2000-2500 a year.

Mr. Wing tells us, that 76% of the wage earners in Massachusetts have an average wage of $1325.00. I am not amiss, in stating that at least 80% of the individuals gainfully employed in Massachusetts do not earn more than $2500 a year. The public clinics of Boston, then, consider that at least four-fifths of the population are admissible to the clinics in one way or another.

Our present society is so constituted, that every individual is expected to provide all the commodities, which are necessary to maintain himself and his dependents, by his own individual efforts. So-called charity is to be resorted to in exceptional and unusual cases. If a commodity is to be supplied to a great majority of the population through social channels it is no more a charity, but a public service (e.g., our public school system).

Millions of dollars are being spent yearly by municipalities and various philanthropic organizations (which in the long run is public money) to supply the people with medical service in various public institutions. We accept the notion, that four-fifths of the population are entitled to receive this service in these institutions. There is only one logical conclusion that could be drawn from it: medical service must cease to be an individual commodity, and become a public service. Let us study and discuss the problem from this angle only. If the people can obtain a better and cheaper medical service through public channels let us develop and improve this method.

The writer is not afraid of the words "State Medicine," "Medical Socialism" and other taboos. In fact, he believes, that we are heading toward some form of collective organization of medical practice, whether the doctors want it or not. Furthermore, he believes, that it is up to the people and not to the doctors to decide, which form of medical practice should predominate in the community. What we need is to put the problem squarely, frankly and clearly. Let us call a spade a spade. Let us not say at medical meetings, that the American people will never tolerate paternalism and proceed to collect more funds for more public clinics.

There is something wrong with this medical business of ours. It is not in a healthy state. Let us

be open-minded and try to make a correct diagnosis. We then can hope to render satisfactory treatment.

LOUIS SILVER.

483 Beacon Street, Boston.

A DOCTOR NEVER KNEW OF AN EXAMPLE OF FEE-SPLITTING

Dr. Jno. W. Corbett
Camden, S. C.

November 20, 1930.

Editor, *New England Journal of Medicine.*

Dear Sir:

Anent your editorial in September, and letters on the subject of Fee-Splitting; the "disturbing of the profession by bringing up this subject," I wish to say I have been practicing medicine and surgery since 1884—have had patients referred to me from Maine to Texas, and I have referred patients to specialists from Boston to New Orleans, and have never known or suspected the slightest hint, thought, or suggestion on either side of any profit or question of profit other than that based on each doctor's individual charge—and these individual charges were unknown to both parties, except in some cases when the specialist sought some information as to the ability of a referred patient to pay a small fee or none. I have never known of, or heard of, a case of fee-splitting.

JNO. W. CORBETT, M.D.

TWO SUGGESTIVE CLINICAL EXPERIENCES

Mr. Editor:

Though clinical medicine supplies the original fire, and grants or withholds the final approval, for the labors of medical scientists, its own observations are seldom of great scientific value. In its manifold activities, however, it may quite by accident prepare and carry out the boldest experiments. I wish to record here two series of clinical observations that are not without scientific significance, albeit they do not, in themselves, permit the drawing of scientific conclusions.

THE FIRST

A six year old boy was seen, after dark, on November 19, 1926. He complained of fever and a sore throat. There was a "questionable scarlet fever rash". The presumptive diagnosis of scarlet fever was made and the child was isolated in his room for the night. The next morning the diagnosis of scarlet fever was plain and the following program was at once instituted: The only other child in the family was removed to a neighbor's house. The sick boy remained on the second floor, where there were two bedrooms and a bath. The father gathered his needed belongings and prepared to live and sleep downstairs. A well trained nurse was secured to supervise and instruct the mother in the care of the patient. The nurse remained for a week, after which, for economic reasons, the situation was handled by the mother. *The mother did not come into direct contact with any person except the patient,* and came into indirect contact only with the father, who continued at his work and faithfully kept his part of the isolation.

On November 20 the child was given one therapeutice dose of scarlet fever antitoxin (Mass. State lot No. S 7 A). The following day he was somewhat better, but the temperature was still 102° and a second dose of the same serum was given. These were both given intramuscularly into the left buttock. On account of an obstructive rhinitis the child was given nasal drops of camphor and menthol in liquid petrolatum.

By November 27 the patient was in the throes of a very severe serum sickness. Within a few days there was an angry red, swollen left buttock at the site of the serum inoculations. After daily observations this buttock was opened by Dr. H. Q. Gallupe, on December 4. More than a pint of pus, *which contained a pure culture of hemolytic streptococcus,* was removed. This was, so I am assured by bacteriologists, a hematogenous infection. For magnitude I have never seen anything quite like it. From this point the child continued to convalesce satisfactorily.

On or about December 1 the mother began (so she confessed a year later) to instill into her own nose the drops provided for the patient, using the same medicine dropper for the purpose. On December 3 she complained of sore throat, and although she had had scarlet fever in childhood I naturally feared that she was going to develop a second attack. A slight fever which she had that day subsided, and she thereafter referred to her "cold in the head" rather than her "sore throat". The pharynx was only slightly injected. On December 8 the mother developed a temperature of 103°, and there appeared the beginning of a butterfly type of facial erysipelas. The nurse was recalled to care for both patients, while the mother ran the course of a severe eight-day erysipelas. On December 11 conjunctival cultures from the mother gave a growth of staphylococcus albus. She then developed an infraorbital abscess beneath the right eye. On being opened on December 15, the pus from this abscess yielded *a pure culture of hemolytic streptococcus.*

All I can say of these two cultures of hemolytic streptococcus is that they were identical in their colonial appearances on blood agar plates, and in their microscopic and staining reactions. I regret that I was unable to have them studied biologically. The point is that a woman who had had scarlet fever in childhood simultaneously exposed herself to scarlet fever and isolated herself from all other significant exposure—and—after a period of not less than ten days nor more than eighteen days contracted—not scarlet fever—but erysipelas!

THE SECOND

During August and September, 1930, seven men with typhoid fever were cared for by the Contagious Service of the Waltham Hospital. These men were all celebrants at a picnic held at Cochituate, Mass., on July 29, and represented our quota of some thirty or forty cases consequent, it is rumored, to their preference for water in place of certain other beverages. Of our seven cases two were considered, for practical purposes, as bacteriological cases. They

were not ill. Neither of them had ever had typhoid vaccine.

All of the remaining five men were ill. The diagnosis was made in each case, either by blood culture or by changing agglutinating titre of the blood serum for typhoid bacilli. At one time or another they all presented the classical "typhoid state". Of the five, one, Mr. H., had had twelve inoculations with typhoid vaccine between 1914 and 1918. One other had had three inoculations in 1918. The remaining three had never received typhoid vaccine.

The temperature curves of these five men appear in the chart, composited on the basis of their simultaneous exposures. The heavy curve is that of Mr. H., who had had twelve prophylactic inoculations. It shows that the course of his illness was shorter than that of any of the others. But the clinical observations were even more striking than the fever charts.

During the first week Mr. H. was the only patient who resembled a case of typhoid fever, with his prostration, flushed face, circumoral pallor and bright eyes. The other four had fever when they entered, to be sure, but they were animated and took the whole affair as a joke. During the second and third weeks in the hospital, however, the tunes were reversed. Although Mr. H. had a short febrile period after the initial subsidence, he was rapidly convalescing when the others began to smile on their finger tips and babble o' green fields. Two of the other four died after Mr. H.'s recovery was well established.

It is possible—indeed it is likely—that there was nothing more than coincidence between the earlier onset of toxic symptoms and the shorter clinical course, in the man who had had the twelve prophylactic inoculations. On the other hand one could but wonder if his cells, previously sensitized, did not respond more readily to the stimulus for antibodies. A familiar analogy to such a response is the accelerated "take" of vaccinia in a person previously vaccinated.

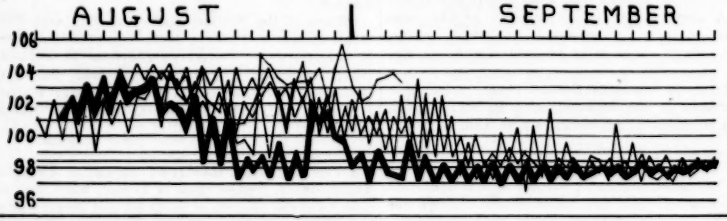
SUMMARY

I have related circumstances suggesting that: (1) Scarlet fever and erysipelas were caused by one and the same strain of hemolytic streptococcus, and (2) Previously generous prophylactic inoculations with typhoid vaccine, while they did not prevent the development of typhoid fever, may have accelerated its clinical course.

For the support of both of these suppositions there exists scientific data. References to these I have purposely omitted and am content simply to record them as two suggestive clinical experiences.

DWIGHT O'HARA, M.D.

751 Main Street, Waltham, Mass.



ADDITIONAL REFERENCES TO THE SUBJECT OF "NOSEBLEED AND VOMITING IN RHEUMATIC INDIVIDUALS"

November 20, 1930.

Editor, *New England Journal of Medicine:*

Levine, Andren and Homans in their paper on "Nosebleed and Vomiting in Rheumatic Individuals," *New England Journal of Medicine*, October 23, 1930, pp. 832-834—omit mention of previously recorded observations by Hippocrates, J. Rhodius, Rosenberg, Hoffmann, Laycock (1862), Chapman, Sutton (1864), Frühlich, Chomel, Goldstein (1930), and others—emphasizing epistaxis in relation to rheumatic conditions, rheumatism and arthritic fevers. See International Clinics (Lippincott, Phila.), III, pp. 148-170, Sept. 1930—article by Goldstein on "Hereditary Epistaxis."

HYMAN I. GOLDSTEIN,
1425 Broadway,
Camden, New Jersey.

RECENT DEATHS

TAYLOR—DR. JOSEPH VINCENT TAYLOR, a promising obstetrician of Boston, a graduate of Harvard Medical School in 1921, died suddenly at his home in Roxbury, November 15, 1930, aged 41. He joined the Massachusetts Medical Society in 1926 and had a Boston office.

BRAINERD—DR. WALTER SCOTT BRAINERD, a retired Fellow of the Massachusetts Medical Society, of Bradford and Haverhill, died in the former town, November 13, 1930, at the age of 71. He was a graduate of the University of Vermont School of Medicine in 1883; his name was placed on the retired list in 1925. His practice was devoted largely to diseases of the eye, ear, nose and throat.

LOVELL—DR. CHARLES EDWARD LOVELL of Whitman died in that town, October 31, 1930, aged 69 years. The son of Mary S. and Edward S. Lovell, he

was born in Woodstock, Vermont, April 13, 1861. After attending the public schools he removed with his family to Middleborough, Massachusetts. There he was graduated from the high school and going on to Dartmouth received the degree of M.D. in 1885. He served as house officer at the State Almshouse at Tewksbury and settled in practice in Whitman, joining the Massachusetts Medical Society, and was physician to the Whitman board of health and served the town as a member of the board of selectmen for twenty years, also as an overseer of the poor. President McKinley appointed Dr. Lovell, United States examining surgeon, a position he held until the time of his death. In 1914 he was president of the Plymouth District Medical Society. For a long time he was trustee of the Whitman savings bank, was vice-president of Old Colony Chapter, Sons of the American Revolution of Brockton and president of the Bridgewater Historical Society. Other societies to which he belonged were: Puritan Lodge, A. F. and A. M., Pilgrim Royal Arch Chapter, Old Colony Commandery of Abington, and of the Abington Council; Plymouth Rock Lodge, K. of P.; Webster Lodge, I. O. O. F.; Aleppo Temple, Mystic Shrine, of Boston and an associate member of D. A. Russell Post, G. A. R.

Dr. Lovell had a pleasing personality and was much in demand to speak at meetings. Projects to advance public interests were always dear to him and he had great sociability, as attested by the large number of social organizations to which he belonged. He is survived by his widow and one son.

PERRY—Dr. Charles Eugene Perry, a Non-resident Fellow of the Massachusetts Medical Society, died at Hartford, Connecticut, July 26, 1930, aged 47.

HOLLAND—Dr. William Joseph Holland, for 26 years a practitioner of Malden, died at his home in that city, of pneumonia, November 20, 1930 at the age of 56.

He was born in Boston and attended Boston College and Georgetown University Medical School, Washington, receiving his M.D. there in 1903. During the nineties he gained considerable prominence as a contestant in foot racing and held the intercollegiate championship in the quarter mile in 1898 and 1899. The following year he was a contestant at the Olympic games in Paris. He was a member of the Knights of Columbus and a ready debater. He was a Fellow of the American Medical Association and of the Massachusetts Medical Society.

Dr. Holland is survived by his widow, Mrs. Florence Murphy Holland, and by a son and two daughters.

NEWS ITEMS

THE APPOINTMENT OF DR. NORBERT A. WILHELM—Dr. Norbert A. Wilhelm has recently been appointed to the Administrative Staff of the Peter Bent Brigham Hospital, where he will serve as assistant to the superintendent, Dr. Joseph B. Howland.

NEWS ITEMS FROM TUFTS COLLEGE MEDICAL AND DENTAL SCHOOL—Miss Cornelia Sorabji of Calcutta gave an address at Tufts Medical School at 1:30 Monday, November 17, at a special meeting of the William Harvey Society. Her subject was "The Present Status of Medical Practice in India."

Miss Sorabji, who is referred to in Katherine Mayo's book "Mother India" as "that most eminent of Indian ladies" speaks with accurate knowledge derived from long and intimate personal contact with the people of India. She dresses beautifully in the style of the Parsi ladies of Bombay.

The first woman to receive the Bachelor of Civil Law degree from Oxford University, Miss Sorabji has been for more than 30 years a practising lawyer in India.

The William Harvey Society, founded last year by the students of Tufts Medical School, seeks to further interest in the art of medicine. Lectures are delivered once each month to the society at the Beth Israel Hospital by distinguished members of the medical profession.

The advisory board is composed of the following: President, James A. Cousens; Dean A. Warren Stearns, Dr. Edward M. Hodgkins, Dr. Timothy Leary, Dr. Abraham Myerson, Dr. Louis E. Phaneuf, Dr. Cadis Phipps, Dr. Nathan Sidel, Dr. Benjamin Spector.

Officers of the William Harvey Society are: President: Robert T. Phillips, 1932; Vice-president: Fred N. Manley, 1931; Secretary: Lorrimer M. Schmidt, 1933; Treasurer: Wayne C. Barnes, 1932; Frank H. McCarthy, 1931; Edward T. Abrahms, 1932; William J. Crooks, 2nd, 1932; Joseph H. Doll, 1932; Harold Wood, 1933.

A TESTIMONIAL BANQUET TO DR. J. ARTHUR GAGE—Dr. J. Arthur Gage of Lowell, Mass., has retired from the practice of medicine and surgery after a long successful and honorable career in the city of his birth, and the Middlesex North District Medical Society will give him a testimonial banquet at the Yorick Club in Lowell, Mass., December 10, 1930.

The large circle of Dr. Gage's friends will be pleased to know of this recognition of his long and important service to the people of Massachusetts.

Archibald R. Gardner.
16 Shattuck Street,
Lowell, Mass.

DR. AND MRS. CHENERY PLAN FOR A CRUISE AROUND THE WORLD—Dr. and Mrs. William E. Chenery of Commonwealth Avenue are leaving New York December 2 on the S.S. Empress of Australia for a cruise around the world.

Their first port will be Madeira. They expect to be in Bethlehem on Christmas Day and in Cairo on New Year's Day. After visiting Luxor they will stop in India, Ceylon, the Philippines, China and Japan, returning by the way of Honolulu to San Francisco. They will return to Boston the early part of May.

NOTICES

REMOVALS

Dr. J. Paul Tierney announces the opening of his office at 416 Marlboro Street, corner Massachusetts Avenue, Boston, Mass.

Dr. Andrew P. Cornwall announces the removal of his office to 371 Commonwealth Avenue, Boston.

THE RESTORATION OF THE REGISTRATION OF DR. GEORGE J. OTT

On page 1102 may be found the statement of the Committee on Ethics and Discipline of the Massachusetts Medical Society setting forth the facts.

CARDIAC COURSE

THE SECOND MEETING OF THE CARDIAC COURSE OF THE NEW ENGLAND HEART ASSOCIATION

The second meeting of the Cardiac Course of the New England Heart Association will be held in John Ware Hall of the Boston Medical Library on Wednesday afternoon, December 3, at four thirty. The program is as follows:

Blood Pressure: Normal and Abnormal.

1. The Normal Blood Pressure.
   Dr. Soma Weiss, Boston City Hospital.
2. Abnormal Blood Pressure.
   Dr. Robert S. Palmer, Massachusetts General Hospital.
3. Treatment of Hypertension.
   Dr. James P. O'Hare, Peter Bent Brigham Hospital.
4. Discussion to be opened by Dr. Frank T. Fulton, Providence.

All physicians and students interested are invited to attend. There is no charge for this course.

The complete program of the Cardiac Course appeared in the issue of October 23, page 854.

PAUL D. WHITE,
President, New England Heart Association.

RADIO MESSAGES

SPONSORED BY THE STATE DEPARTMENT OF PUBLIC HEALTH, COURTESY WBZA

Every Wednesday at 5:20 P. M.

December 3—"Nephritis", Dr. W. H. Ohler.

December 10—"So-Called Chronic Appendicitis", Dr. Charles C. Lund.

December 17—"Accidents", Dr. Louis G. Howard.

December 24—"Some Diseases We Don't Talk About—And Why Not?" Dr. N. A. Nelson.

December 31—"The Hospital and the Public Health", Dr. Henry M. Pollock.

A "Health Forum" directed by the State Department of Public Health, courtesy WEEI, began October 2, 1930 and will continue Fridays at 4:50 P. M. Queries and Answers will be broadcast.

Questions on health and prevention of disease may be sent to "Forum", State Department of Public Health, State House, Boston, Mass.

REPORTS AND NOTICES OF MEETINGS

DR. HAGGARD'S LECTURE BEFORE THE WILLIAM HARVEY SOCIETY

On Friday evening, November 14, the second of a series of monthly lectures was held at the Beth Israel auditorium, sponsored by the William Harvey Society of Tufts Medical School.

The speaker of the evening was Dr. Howard W. Haggard, associate professor of Applied Physiology, at Yale Medical School and author of the popular book, "Devils, Drugs, and Doctors." His topic was, "Medicine Through the Ages." Dr. Nathan Sidel, of the Tufts Medical faculty, was chairman.

A large and appreciative audience gathered to hear Dr. Haggard.

Dr. Haggard has an exceptionally good voice and method of delivery. He used a high pressure, rapid fire bombardment of facts and subtle humor, which simulated a "Floyd Gibbons." As a result, everyone kept mentally alert.

Dr. Haggard began his address with a brief review of medicine as practiced by the very early groups, explaining how the various religious sects differed, and set forth the progress made in very early times. He carried the subject matter through the Greek and Roman periods, emphasizing certain famous historical characters, of importance politically, as well as scientifically up to the recent centuries, bringing in humorous incidents and stories concerning many of the European Royal Families. In discussing the medical progress of the last century, Dr. Haggard emphasized the work of Lister and Pasteur, the discovery of anesthesia, the causes of puerperal sepsis, and many other interesting scientific contributions to medicine.

The lecture was informative and stimulating throughout.

The next lecture in the series is scheduled for Friday, December 12, 1930, at 8 p. m. at the Beth Israel Auditorium. The speaker will be Dr. Elliott P. Joslin, Clinical Professor of Medicine at the Harvard Medical School, and his subject will be "The Carbohydrates in the Body." Dr. David Rapport, Professor of Physiology at Tufts Medical School, will be chairman on that occasion.

SOUTHEASTERN ASSOCIATION OF BOARDS OF HEALTH

At the Lakeville State Sanatorium on Wednesday, November 12, the Southeastern Association of Boards of Health held an interesting meeting with nearly two hundred health workers in attendance. There were two general topics about which the discussion revolved, "The District Health Unit," and "The Prevention and Control of Tuberculosis." Dr. Richard P. MacKnight, State District Health Officer, was chairman, and opened the meeting by saying

that such a meeting of health officers with members of the State Department of Public Health, was always desired by the Department, giving as it does direct contact with the Department and a means of presenting to the health officers up-to-date and accurate information about the State work.

The first speaker was Mr. G. W. Hallett, agent of the Barnstable Board of Health, and president of the association, whose topic was "Seal Sale money and how it is effectively spent." The general trend of his remarks was that money collected in this way is for very definite purposes. He sketched the beginnings of the movement in the state, which were in Barnstable county, and noted how uniformity of action, which at first was the lacking feature, is necessary for such work, and has been developed in later years. The early work in latent tuberculosis in children formerly lacked the coöperation of the family physician, who was loath to tell the family of the existence of tuberculosis in its midst. Visiting and school nurses have given much support to this health movement, and it has been later developed by such means as children's camps. The outcome of the various experiences has resulted in health programs of definite purpose, which are very valuable in affording prospective good health in many cases of doubtful futures.

Mr. Frank Kiernan, Executive Secretary of the Massachusetts Tuberculosis League, pleaded for earlier diagnosis and earlier entrance into the sanatorium. The money from the Seal Sale is expended for very definite purposes, which are outlined in the first place by the National Tuberculosis Association, and made known to the different local societies through state federations of these associations of which the League is a type. He also emphasized the educational value of the seal.

In taking up the topic of the district health unit, Dr. Wilson W. Knowlton, State District Health Officer, began his talk by the question, "What are you going to do about it?" He referred to past ideals and practices of health workers in bending their major efforts towards fighting such items as garbage, smells, smoke, and in reliance on fumigation. A few communities cling to these old ideas, but the progressive ones have changed front, and for consideration now there are such matters as infection, traveling about of sick persons and carriers. "Now the question is," said Dr. Knowlton, "what are the boards of health doing in accordance with the new ideas." In the South and West, the community unit is the county, not the city or town, and in these places, the idea of county health units has been in conformity with custom, and much has been done in promoting this plan. In Massachusetts, with pretty well established city and town health management, the idea has not been so actively accepted. In fact, Barnstable is the only whole county which is such a unit. There are certain advantages in the suggestion, uniformity of administration, economy, etc., and the State Department is now presenting the local health unit district idea for the consideration of active health workers. In explanation of the matter, Dr. Knowlton discussed quite at length the relationship between the present "individual" health department, and larger institutions working with and through existing boards for the betterment of the local health administration of the different districts in the state.

In the discussion Mr. Hallett brought up such questions as cost, effect on the tax rate and what such units can do that is not already being done by existing boards of health. He called attention to the fact that boards of health deal largely with charity problems, so far as remuneration of its officers is concerned. The unit system does not mean the release of the existing local board of health. In Massachusetts it is not unlikely that the county cannot always be the best unit as it is in Barnstable. Coming to direct suggestions, Mr. Hallett emphasized the fact that acceptance of the unit must be a town meeting matter, but here the local board of health by its support of the idea may be of great value in forming public opinion.

Dr. Alton S. Pope, Director of the Division of Tuberculosis of the State Department of Public Health, gave consideration to a variety of topics. He explained the waiting list for state tuberculosis sanatoria by noting that while authority has been given for the establishment of county institutions, some of the counties have not availed themselves of the permissive legislation. At the present moment Middlesex is well advanced in the construction of its hospital, and Worcester is about to break ground for its institution, and with these in operation the waiting list for Rutland will be pretty well cared for.

The hospital phase is however only one side of the matter, for only about forty per cent. of the patients come to the hospital in condition favorable for improvement. Early diagnosis is therefore one of the urgent needs of the times, and it would seem that better domiciliary service is indicated. There must be a study of contacts, and better facilities for case finding in this disease, which is so varied in its early symptoms. To accomplish these results there is demand for the x-ray outfit and a local trained staff, and these are beyond the financial means of many small communities. To remedy this situation the health education of the people is necessary.

Dr. Leon A. Alley, Superintendent of the Lakeville Sanatorium, presented a brief story of the progress of the institution, which has in its equipment 150 beds for children, and emphasized the need of special attention to the existing importance of cases of the bovine type.

In his discussion of "Cattle and Tuberculosis", which was the principal paper of the afternoon, Mr. Evan F. Richardson, Director of the State Division of Animal Industry, gave many interesting facts and figures. Barnstable county which was largely represented at the meeting, has a cattle quarantine, and is the only accredited area in Massachusetts, with however some districts in the western part of the

Commonwealth, practically ready for acceptance. The states of Maine, Michigan and North Carolina are "clean" as shown by tuberculin tests. The fact that one-quarter of the children at Lakeville have the bovine type of disease, suggests control of tuberculosis in cattle, and the time is coming when the people will demand tested cows.

Much of the story was with reference to cow population, which in Massachusetts is 202,000, and the progress of the work, in which activity is now limited only by the amount of the available appropriations.

The discussion of the paper emphasized the importance of pasteurization of milk, but made it equally evident that milk from clean cows to begin with is also essential.

A very interesting motion picture, "New Ways for Old", showing the importance of immunization against diphtheria, closed the session. During the luncheon hour many of the visitors took the opportunity to inspect the sanatorium with its newly built section for children, and its admirable dairy farm.

CAPE COD HEALTH BUREAU

The fall meeting of the Cape Cod Health Bureau was held in Hyannis on November 19. Anti-mosquito work, the Cape as a tuberculin-tested area and standardization of the regulations of boards of health received especial consideration. The President, Mr. G. W. Hallett of the Barnstable Board of Health, in his opening remarks referred to the system of health units, the formation of which is of such vital interest to the State Department of Public Health. With reference to mosquito elimination Dr. A. P. Goff, County Health Officer said that $75,000 had been available for the work on the Cape this year. About one-third of this amount was spent in ditching, now practically half completed, and the other two-thirds was spent on local work. Various localities report a great diminution in the mosquito pest and it is expected that many other areas will be practically mosquito-free next year. In his regular report Dr. Goff presented some statistics with respect to the diminution of disease and noted that the State is making a special endeavor to secure the earlier reporting of venereal diseases. The earlier diagnosis of tuberculosis is also receiving the attention of the Bureau and an effort is being made to interest physicians in that problem. At the afternoon session Mr. J. T. Mecarta, County Milk Inspector, reported two convictions for the violation of the cattle quarantine in introducing non-accredited cows into Barnstable County.

The rest of the session was devoted to a discussion of the uniform regulations for health boards, with the usual careful consideration of practical details which characterizes these meetings. The more important recommendations of the State Health Department were studied, including carding and quarantine which showed wide variations in the different towns of the county, and the different practices were explained by the health officers of the various localities. Dr. Richard P. MacKnight, State District Medical Officer, emphasized the importance of printed regulations for the boards, noting that cases of merit are thrown out of court because of no definite evidence of the existence of such regulations.

For its final action the association voted that a committee on regulations be appointed to confer with the joint committee of the Massachusetts Association of Boards of Health and the State Department of Public Health.

A JOINT MEETING OF THE SUFFOLK DISTRICT MEDICAL SOCIETY AND THE STAFF OF THE MASSACHUSETTS MEMORIAL HOSPITALS

The Suffolk District Medical Society held a joint meeting with the Staff of the Massachusetts Memorial Hospitals on Wednesday, November 19, 1930 in the Auditorium of the Evans Memorial; Dr. George S. Derby, presiding.

The first part of the evening was taken up with routine reports of the Staff. The Analysis of Service and the Necropsy Report for October were presented.

Short papers were then read, as follows:

"Some Clinical Experience with Sodium Amytal and Avertin as Anesthetics" by Dr. Eleanor Ferguson, "Functional Criteria of Normal Pregnancy" by Dr. A. W. Rowe, and "Intravenous Urography in Bladder Neck Obstruction" by Dr. S. N. Vose.

A very interesting and valuable contribution in the determination of renal function was presented by Dr. George Levene and Dr. William Konikov, the determination of the amount of uroselectan which passes through the kidneys being estimated by the x-ray on a graduated scale, making a rapid and exceptionally accurate determination.

Following this portion of the program, clinical cases were presented. A case of exceptionally deep lung abscess, which was still in the Hospital and making a satisfactory convalescence, and following that, a case of splenic anemia with splenectomy in a young Italian girl of thirteen, admitted with very severe hematemesis, so extreme that she was almost exsanguinated were presented by Dr. Charles T. Howard. (This young Italian girl is now making an entirely satisfactory recovery.) A case of echinococcus cyst (which was successfully operated upon the following day) was presented by Dr. J. Emmons Briggs, and x-ray pictures of the same case, showing the diaphragm pushed up by the enlarged liver, were presented by Dr. S. W. Ellsworth. Two cases of Berger's Disease, one of which had lost both legs and his right arm, the other awaiting operation, were presented by Dr. C. D. Harvey. A case of possible myxoedematous heart was presented by Dr. W. D. Reid.

Adjourned at 10:10 P. M. Following adjournment refreshments were served. There was a large attendance.

THE WACHUSETT MEDICAL IMPROVEMENT SOCIETY

The Wachusett Medical Improvement Society held its regular monthly meeting in Rutland, November 5. Mrs. Edward Brown, Superintendent of the Summit House, private sanatorium for tuberculous patients, entertained the Society.

Dr. Charles A. Sparrow of Worcester presented a very interesting talk on Modern Infant Feeding.

WILLIAM T. KNOWLTON,
Secretary and Treasurer.

A JOINT MEETING OF THE WACHUSETT MEDICAL IMPROVEMENT SOCIETY AND THE BROOKFIELD MEDICAL CLUB

A special meeting of Wachusett Medical Improvement Society was held Wednesday, Nov. 19, 1930 at "Ye Olde Tavern," West Brookfield, on invitation of the Brookfield Medical Club to combine in a joint meeting. Dr. Charles Lynch of the Mercy Hospital, Springfield, presented a most interesting paper entitled, "Pancreatitis and Pancreatic Abscess."

There was an unusually large attendance of both organizations.

WILLIAM T. KNOWLTON, *Secretary and Treasurer,*
Wachusett Medical Improvement Society.

GREATER BOSTON MEDICAL SOCIETY

A joint meeting of the Greater Boston Medical Society and the Beth Israel Hospital will be held on Tuesday, December 2, 1930, at 8:15 P. M. at the Beth Israel Hospital.

Program:

Medical Complications of Pregnancy—Dr. Solomon Strouse, Associate Professor of Medicine, Rush Medical School.

Discussion: Dr. Louis J. Ullian, Dr. Joseph P. Cohen.

BERNARD I. GOLDBERG, M.D., *Secretary.*
483 Beacon Street, Boston, Mass.

MASSACHUSETTS GENERAL HOSPITAL

A Clinical Meeting of the Staff of the Massachusetts General Hospital will be held in the Moseley Memorial Building, on Thursday, December 11, 1930, at 8:15 P. M.

PROGRAM

1. Presentation of Cases.
2. Treatment of Male Sterility, Dr. Morris B. Sanders.
3. Relationship of the Endocrine to Reproduction, Dr. Fuller Albright.
4. Treatment of Female Sterility with Particular Reference to Diet and the Endocrines, Dr. Donald Macomber.

Physicians, medical students and nurses are cordially invited to attend.

COMMITTEE ON HOSPITAL MEETINGS.

THE NEW ENGLAND PEDIATRIC SOCIETY

This Society will meet Friday, December 12, 1930.

PROGRAM

1. Clinical meeting conducted by the Children's Medical Service at the Massachusetts General Hospital—Dr. Harold Higgins and Associates, at 4:15 P. M.
2. Evening program at the Boston Medical Library at 8:15 P. M. "Nonpurulent Encephalitis in Children"—Dr. H. M. Zimmerman, Assistant Professor of Pathology, Yale University School of Medicine, and Dr. Herman Yannet, Assistant in Pediatrics, Yale University, School of Medicine.

Discussion by Dr. Tracy J. Putnam, Dr. Bronson Crothers and Dr. Charles F. McKhann.

3. Refreshments.

GERALD HOEFFEL, *Secretary.*

ESSEX SOUTH DISTRICT MEDICAL SOCIETY

The next meeting of the Essex South District Medical Society will be held at the Salem Hospital, Wednesday, December 3, 1930.

Clinic at 5 P. M.

Dinner at 7 P. M.

The speaker will be Dr. L. B. Morrison, of Boston, who will talk on "The Diagnosis of Colonic Lesions as seen by the Fluoroscope and Plates."

R. E. STONE, *Secretary.*

HARVARD UNIVERSITY MEDICAL SCHOOL

UNDER THE AUSPICES OF THE HOWE LABORATORY OF OPHTHALMOLOGY

Two lectures on Recent Work on the Metabolism of the Eye: (1) Physiological Aspects, (2) Clinical Aspects, by W. Stewart Duke-Elder, D.Sc., M.D., F.R.C.S. Surgeon, Royal London Ophthalmic Hospital; Ophthalmic Surgeon, St. George's Hospital; Honorary Research Associate, University College, London; Lecturer of Ophthalmology, University of London. Monday, December 15, and Wednesday, December 17, 1930 at 5 P. M., in Amphitheater E, Harvard Medical School.

THE MASSACHUSETTS SOCIETY OF EXAMINING PHYSICIANS

The meeting of the Massachusetts Society of Examining Physicians will be held at the Copley-Plaza, Wednesday, December 3, 1930. Dinner at 6:30 P. M., $2.50 per plate.

Speakers:

1. Dr. C. R. G. Forrester of Chicago. The Treatment of Fractures—Reduction with Local Anesthesia, Method of Dr. Lorenz Böhler of Vienna. After Treatment. Discussion opened by Dr. F. J. Cotton and Dr. A. W. Allen.
2. Treatment of Compression Fractures. Dr. William Rogers. Discussion opened by Dr. J. W. Sever.

JOSEPH H. SHORTELL, M.D., *President.*
WM. PEARCE COUES, M.D., *Secretary.*

SOCIETY MEETINGS
CONGRESSES AND CONFERENCES

December 2—Greater Boston Medical Society. See detailed notice elsewhere on this page.

December 3—Cardiac Course. See page 1107.

December 3—The Massachusetts Society of Examining Physicians. See notice above.

December 3 and 10—Harvard Medical School. The George W. Gay Lectures on "Medical Ethics". Amphitheater C at 5 P. M. as follows: Wednesday, December 3—Dr. William H. Robey, Clinical Professor of Medicine, Harvard Medical School. Wednesday, December 10—Dr. Robey.

December 11—Massachusetts General Hospital. See page 1110.

December 12—The New England Pediatric Society. See page 1110.

December 15 and 17—Harvard University Medical School. Two Lectures on Recent Work on the Metabolism of the Eye. See page 1110.

March 23-27, 1931 — Fifteenth annual clinical session of the American College of Physicians. Detailed notice appears on page 790, issue of April 17.

July 27-31, 1931—Third International Congress of Radiology, Paris. Complete notice appears on page 386, issue of August 21.

DISTRICT MEDICAL SOCIETIES

Bristol North District Medical Society

April 16, 1931—Taunton Woman's Club.

September 17, 1931.

Essex South District Medical Society

December 3—See page 1110.

Wednesday, January 7, 1931—Beverly Hospital. Clinic 5 P. M. Dinner 7 P. M. Symposium on Duodenal Ulcer. Speakers: Dr. Franklin White, Medical Aspect. Dr. A. W. George, X-ray Aspect. Dr. P. P. Johnson, Surgical Aspect.

Wednesday, February 4, 1931—Council meeting, Boston.

Wednesday, February 11, 1931—Danvers State Hospital. Clinic at 5 P. M. Dinner 7 P. M. Speaker: Dr. Bryant E. Moulton, Assistant Director of the Judge Baker Foundation. Subject: "Juvenile Delinquency."

Wednesday, March 4, 1931—Lynn Hospital. Clinic at 5 P. M. Dinner at 7 P. M. Speaker: Dr. Arthur Allen, of Boston. Subject: "Neurovascular Surgery, including injections for varicose ulcer."

Thursday, May 7, 1931—Censors meet at Salem Hospital at 3:30 P. M.

Tuesday, May 12, 1931—Annual Meeting. The Tavern, Gloucester. Speaker: Dr. Morris Fishbein, Editor of the A. M. A. Journal of Chicago. Subject: "History of Medical Cults." Ladies invited.

Franklin District Medical Society

January, 1931-May, 1931—The meetings are held on the second Tuesdays of January, March and May at 11 A. M. at the Weldon Hotel, Greenfield.

Middlesex East District Medical Society

January 14, 1931—Harvard Club of Boston.

March 11, 1931—At Reading.

May 13, 1931—At Wakefield.

Norfolk South District Medical Society

The meetings for the ensuing year are as follows: December 4, 1930, January 8, 1931, February 5, 1931, March 5, 1931, April 2, 1931, May 7, 1931.

All meetings begin at 12 noon. The February meeting will be held at the Quincy City Hospital. All other meetings will be held at the Norfolk County Hospital, South Braintree.

The censors will meet on May 7 at 11:30 A. M. at the Norfolk County Hospital, South Braintree.

NATHAN R. PILLSBURY, Secretary.

Suffolk District Medical Society

December 17-April 29—Combined meetings with the Boston Medical Library. These meetings will be held as specified below on Wednesdays, at 8:15 P. M.

December 17, 1930—Clinical Program, Boston Dispensary.

January 28, 1931—General meeting in association with the Boston Medical Library at the Boston Medical Library. "The Practice of Medicine in Relation to Public Health Activities." Speakers to be announced later.

February 25, 1931—Clinical Program, Boston City Hospital.

March 25, 1931—Clinical Program, Beth Israel Hospital.

April 29, 1931—Annual Meeting. Election of Officers. Boston Medical Library.

The medical profession is cordially invited to attend all of these meetings.

GEORGE S. DERBY, M.D.,
President, Suffolk District Medical Society.

LELAND S. McKITTRICK, M.D.,
Secretary, Suffolk District Medical Society.

HILBERT F. DAY, M.D.,
Boston Medical Library.

BOOK REVIEWS

Outline in Obstetrics for Nurses. By F. W. RICE, M.D., Des Moines, Iowa. St. Louis: The C. V. Mosby Company, 1930. Price $2.00.

This volume is not intended as a textbook, but is rather a series of notes in the form of headings for the author's lectures to nurses in obstetrics. Between the chapters are blank pages for additional notes. The work is illustrated by fifty-six cuts, many of which are admirable diagrammatic pen and ink sketches by the author. The volume should be an exceedingly useful handbook in obstetrics for nurses.

The Harvey Lectures. Delivered under the Auspices of the Harvey Society of New York. Series 24, 1928-1930. The Williams & Wilkins Company, Baltimore, 1930.

This series of eight lectures maintains the usual standard of these now well-known lectures. Criticism is superfluous and the reader is referred to the titles for a summary of important work on each of the subjects treated.

This particular volume has special local interest on account of the lecture by Dr. Joseph C. Aub, summarizing the work on Calcium and Phosphorous Metabolism.

Grow Thin on Good Food. By LUELLA E. AXTELL, M.D. Price $2.00. Funk & Wagnalls Co., New York and London, 1930.

The purpose of this book is to give the obese directions for reducing. In the first chapter is the argument; then, fallacies about reducing, vital foods, fuels in figures, tricks in cookery, original recipes, and exercise are the titles of some of the other chapters. Like many books of this kind, information is given on the vitamins, proteins, minerals, water, and the caloric value of foods; but, unlike most, many pages are devoted to the culinary art. By the proper selection of meats, the fat content may be greatly reduced; it may also be diminished or replaced by the correct preparation of foods. Many menus have been compiled and proper exercises are described in detail. Obese patients should find in the book many helpful hints to carry out in order to become better nourished, thinner, and healthier.

Allergic Diseases. Their Diagnosis and Treatment. By RAY M. BALYEAT, M.A., M.D., F.A.C.P. Third Edition. Published by F. A. Davis Company, Philadelphia, 1930. Price $5.00.

Dr. Balyeat's idea of preparing a manual which will explain to his patients the principles and the details of their diagnosis and treatment is excellent. No doubt the book has helped him and them. While the essential facts are all described, the poor arrangement of the book leads to unnecessary repe-

tition which pads it and confuses the reader. The first 250 pages embracing 27 chapters are copied verbatim from the second edition which was entitled "Hay Fever and Asthma." Chapters 28-35 inclusive, covering 118 pages, are new. In them are a few facts and figures which are most welcome, but much of the new material is further repetition and should replace rather than add to the older sections.

The simple, almost childlike presentation of the importance of domestic animals and household dusts, does not balance the rather technical descriptions of those hay fever plants and their pollens, which are so important in the Great Southwest. The part played by bacteria in asthma is only touched upon.

The statements that the cause of asthma can be found in eighty per cent. of the cases (page 200), that "eighty per cent. of all pollen seasonal hay fever cases—can 'hope for' complete or practically complete relief" (page 199) and that twenty-nine out of fifty-five patients with migraine obtained from 85-100 per cent. relief and that another ten patients obtained 60 per cent. relief (page 317), indicate the optimistic character of the book and the success which the author has had. There is no bibliography.

Diseases of the Nose, Throat and Ear. By WILLIAM LINCOLN BALLENGER, M.D., F.A.C.S., Late Professor of Otology, Rhinology and Laryngology, College of Medicine, University of Illinois, Chicago, Illinois. Revised by Howard Charles Ballenger, M.D., F.A.C.S., Associate of the Otho S. A. Sprague Memorial Institute Laboratory of the Children's Memorial Hospital, Chicago; Attending Otolaryngologist to the Evanston Hospital, Evanston, Illinois. 1100 pages of text. Publishers: Lea & Febiger, Philadelphia, Pa. Price $11.00.

This textbook is so well known to the medical profession and especially to the otolaryngological fraternity that it needs no introduction. The sixth edition, just published, represents as complete a treatise of the subject as is possible within the limited space of eleven hundred pages. This edition has been extensively rewritten and brought up to date. New chapters have been added notably one covering the subject of bronchoscopy, oesophagoscopy and laryngoscopy, and another dealing with infection due to streptococcus hemolyticus.

Stalkers of Pestilence: The Story of Man's Ideas of Infection. By WADE W. OLIVER, M.D. New York: Paul B. Hoeber, 1930. 19 + 251 pages. Price, $3.00.

This small book has appeared in the *American Journal of Surgery* for 1929. It is now reprinted in a convenient form, with a few well chosen illustrations. The author covers the ground from pre-historic man to the present time in the usual form, but the book is better written than most books on the same subject. One important aspect of this volume is the large number of references given, which should lead some students to a further search for knowledge in medical history. As a brief résumé of the subject the book can be highly recommended.

The Basis of Epilepsy. By EDWARD A. TRACY, M.D. Richard G. Badger, Publisher, The Gorham Press, Boston, Mass. Price $2.00.

This book has one valuable point. It emphasizes the importance of noting vasomotor white spots in epileptic cases, and hunting for them in cases suspected of being epileptic. But any writer on epilepsy, who does not mention Jacksonian epilepsy, whose bibliography with but one exception is twenty-three or more years old, and who states,—"For the writer there is no question of epilepsy being a disease entity", cannot expect to have his book considered authoritative.

Clio Medica: A Series of Primers on the History of Medicine. IV. Internal Medicine. By SIR HUMPHRY ROLLESTON, New York: Paul B. Hoeber, Inc., 1930. ix + 92 pages. Price, $1.50.

This small volume of only 77 printed pages attempts to cover the whole field of the history of internal medicine. The task is practically an impossible one and the book, therefore, consists, except in a few instances, of the listing of the names of important men in medicine and their dates. This is especially so in the seventh chapter on "The Nineteenth Century", which is covered by 22 small pages. The book, however, has some value as it is accurately written and has a good index of both personal names and subjects.

Le Traitement de La Syphilis. By A. SEZARY. Published by Masson et Cie, Editeurs. 198 pages. Price 16 fr.

This small book by one of the best known of the French syphilographers aims to give the general practitioner a simple and yet sufficiently detailed plan for the treatment of syphilis. First, the author discusses carefully each of the drugs, giving their indications for treatment and the dangers in their use. Then the treatment of the patient is taken up starting, as seems a little odd at first thought, with the secondary phase of the disease, next the primary, the later stages, and finally the congenital. The book it strictly up-to-date and accomplishes its purpose. To a large degree the author draws from his own experience and the work is rather free from conventionalized statements.

Travaux Pratiques de Physique Médicale. By S. TURCHINI. Published by Masson et Cie, Paris, 1930. Price 14 francs.

This is a book of about 100 pages describing apparatus and methods used in a medical school course given by physicists. The diversity of its contents

may be gathered from the fact that it describes the use of x-rays, high frequency currents, ultramicroscopy, basal metabolism determinations, cryoscopic examinations and various methods used by the ophthalmologist. It is intended primarily for use in the course given by Professor Turchini and presumably fulfills its purpose. It would not be without interest for those physicians who are interested in the fundamental principles and the manner of conducting various diagnostic aids which usually require a specialist for their application and interpretation.

Dosage Tables For Röntgen Therapy. By FRIEDRICH VOLTZ. Translated from the Second German Edition. Oxford University Press, London. Price $2.50.

As the title suggests, this book is largely an arrangement of tables for the use of the physician in determining the proper dosage with the various exposures used in roentgen therapy. The physical laws underlying each table are also explained and illustrated by examples. In the last part of the book there is a discussion on the methods used in calibrating and standardizing x-ray apparatus and tubes. The tables should be of considerable value to the roentgentherapist who has a working knowledge of physics. The average practitioner would find some difficulty in interpreting the tables, and in understanding the text; to the specialist it is a valuable book.

Slit-Lamp Microscopy of the Living Eye. By F. ED. KOBY. Translated by Charles Goulden and Clara L. Harris. Second Edition. P. Blakiston's Sons & Co. Price $4.50.

The second edition of this well known and useful compendium presents a number of changes over the first. Many sections have been remodelled and the subject matter brought up to date. Some sections which in the first edition were briefly touched on have now been considerably expanded. The number of illustrations has been largely increased and the bibliography numbers nearly six hundred titles. Mistakes in the translation have been rectified. While some of the drawings may be regarded as rather diagrammatic, this on the whole is the best short book on the slit-lamp and can be highly recommended, especially for the student who is acquiring his experience with the slit-lamp microscope.

Diseases of the Ear. By PHILIP D. KERRISON. Fourth Edition. J. B. Lippincott Company. Price $7.50.

Kerrison's Diseases of the Ear has been a standard textbook for the past twenty years. There have been three previous editions, and a fourth is now brought out with numerous additions and improvements. This is particularly true in regard to such portions of the book as deal with the treatment of various aural lesions, the surgical subject matter of which has been largely rewritten. Meningitis of otitic origin receives attention warranted by recent studies along the line of its treatment and the discussion of the surgical treatment of facial paralysis has been amplified.

A new chapter is to be found on the modern oral methods of training deaf children, a subject which is coming to bulk larger and larger in any consideration of otological problems.

The text with each new edition has dealt more and more adequately with diseases of the labyrinth and with the cerebral complications of aural disease.

The book has always been one of great reliability and comprehensiveness for both the practitioner and the specialist and in its newest form will continue to remain an authority on the subject of aural disease.

Minor Surgery and Bandaging. By GWYNNE WILLIAMS. 20th Edition. 445 Pages. F. A. Davis Company. Price $3.50.

This is a small handbook of minor surgery which covers the subject in a very clear and complete fashion and does not try, as so many books on minor surgery do, to include a great many subjects which properly belong under many different heads. Every third year medical student should, in the opinion of the reviewer, have a copy of this book to read in connection with his out-patient work and surgery. It is undoubtedly true that one would have gotten more out of his work in surgery during his medical school days and as a surgical house officer if he had had such a reference book at his command. Also, unlike many books on the subject it tells you exactly what to do and how to do it which, after all, is the crucial point in all minor surgical procedures. For example in speaking of trusses the author explains in detail exactly how to measure a patient for a truss, how to fit the truss and what type of truss will be suitable for the various types of hernia. Other subjects such as surgery of the hand are dealt with in the same clear, concise and detailed manner so that after reading the chapter one is left with a definite idea as to the proper procedure to be followed and not with a confused mass of poorly correlated facts. The book is certainly not only adapted to the use of medical students, but it should also be an invaluable aid to all those who are treating minor surgical lesions.

BOOKS RECEIVED FOR REVIEW

A Synopsis of Medicine by Henry Letheby Tidy. Fifth Edition. Published by William Wood and Company. 1032 Pages. Price $6.00.

The Treatment of Children's Diseases by Prof. Dr. F. Lust. Authorized Translation of the Sixth German Edition with Additions by Sandor A. Levinsohn. Published by J. B. Lippincott Company. 513 Pages. Price $8.00.

Medicine in Virginia in the Seventeenth Century by Wyndham B. Blanton. Published by The William Byrd Press, Inc. 336 Pages.

A Text-Book of Practical Therapeutics with Especial Reference to the Application of Remedial Measures to Disease and Their Employment Upon a Rational Basis by Hobard Amory Hare. 21st Edition. Published by Lea & Febiger. 1104 Pages. Price $7.50.

Annals of Roentgenology, Volume XII, Edited by James T. Case. *The Chest in Children* by E. Gordon Stoloff. Published by Paul B. Hoeber, Inc. 432 Pages. Price $15.00.

The Public's Investment in Hospitals by C. Rufus Rorem. Published by The University of Chicago Press. 251 Pages. Price $2.50.

Practical Treatise on Diseases of the Digestive System by L. Winfield Kohn. Volumes One and Two. Published by F. A. Davis Company. 1125 Pages. Price $12.00.

Les Fonctions Hépato-Biliaires by M. Chiray and F. Thiébaut. Masson et Cie, Éditeurs. 170 Pages. Price 24 fr.

Thérapeutique Médicale. II Aliments Médicaments, by many authors. Masson et Cie, Éditeurs. 328 Pages. Price 45 fr.

Intestinal Toxemia by Anthony Bassler. Published by F. A. Davis Company. 433 Pages. Price $6.00.

Historic Artificial Limbs by Vittorio Putti. Published by Paul B. Hoeber, Inc. 63 Pages. Price $1.50.

THE ECONOMIC IMPORTANCE OF COMMON COLDS

Emphasizing the very common impression that the common cold has a very important economic bearing on the prosperity and health of the people Dr. S. W. Wynne, Health Commissioner of New York City, has issued a statement to the effect that this malady is one of the most formidable enemies of the public health and goes on to explain that the direct and indirect loss from common cold amounts to more dollars and cents out of the workers' pockets in one year than any other illness; further that colds are responsible for a greater loss in time from school and work than any other single cause. But more than the mere money loss its importance reaches into the problems of health in that there is so much neglect of the necessary treatment for colds that it is often the precursor of such serious diseases as bronchitis, pneumonia and heart disease, and that it may have an influence in developing a latent tuberculosis. This latter danger is inadequately recognized because many persons with an arrested tuberculosis are in comparatively good health until the system is weakened by a cold which tends to activate this latent process. Although colds in and of themselves do not have a mortality record as a rule, the sequelae have a very important place in the vital statistics which do not in very many instances explain the relative importance of the result of colds.

Few people are immune to the common cold although it is the commonest and most widespread of communicable diseases. Despite the great advance in medical knowledge there has been no general agreement as to the nature of the infectious agent. A group of research workers at Johns Hopkins has been engaged in a five-year study of this universal malady. Dr. Wynne concludes as follows: "The common cold is infectious; the agency of transmission is one of the group of filterable viruses so small that they cannot be seen by the most powerful microscope; the infecting agent, the virus, is present in the nose of every person suffering from the cold; the common cold comes from contact with a person infected with this specific germ and not from the chemical changes in the body."

"I firmly believe that 'an ounce of prevention is worth a pound of cure'. The danger of the common cold is too lightly estimated by the public at large; hence the necessity for emphasizing preventive measures."

MEDICAL PAGEANT AT TUFTS

Nine great medical leaders were impersonated by members of the second and third year classes at Tufts Medical School as a feature of the annual reception tendered to the first year students by the faculty November 21. The object of the pageant was to revitalize the personalities which created new and basic thought movements in the evolution of medicine, and to indicate that a knowledge of medical history is of vital importance in any intelligent interpretation of modern medicine.

Each character was costumed in accordance with the age in which he lived, every effort being made to assure accuracy of detail. Coöperating with Dr. Benjamin Spector, associate professor of anatomy and chairman of the student relations committee, who directed the production, were Dr. Charles F. Painter, professor of medical history; James F. Ballard, director of the Boston Medical Library, and Dr. A. Warren Stearns, dean of Tufts Medical School.

Dr. Stearns impersonated a country practitioner of the early 19th century, Dr. Joseph Foster of Canterbury, New Hampshire. In addition to wearing the picturesque costume actually worn by Dr. Foster, Dean Stearns carried with him the doctor's kit which was filled with old-time preparations, bottles, prescriptions, instruments and letters and papers dealing with his work.

The characters in the presentation were: Hippocrates, John D. A. Gatsos of Boston; Vesalius, Arthur A. Thibodeau of Newport, N. H.; Maimonides, Alexander Solosko of New York City; Paré, Peter D. Coumoundoureas of Lowell; Harvey, James I. Rabinowitz of Boston; Sydenham, William J. Crooks of Newark, N. J.; Pasteur, Robert T. Phillips of Milford, N. H.; Lister, B. W. Mandelstam of Brighton, and Ehrlich, Lorrimer M. Schmidt of North Billerica. It is probable that the pageant will be repeated some time in December on the invitation of the Boston Medical History Club.